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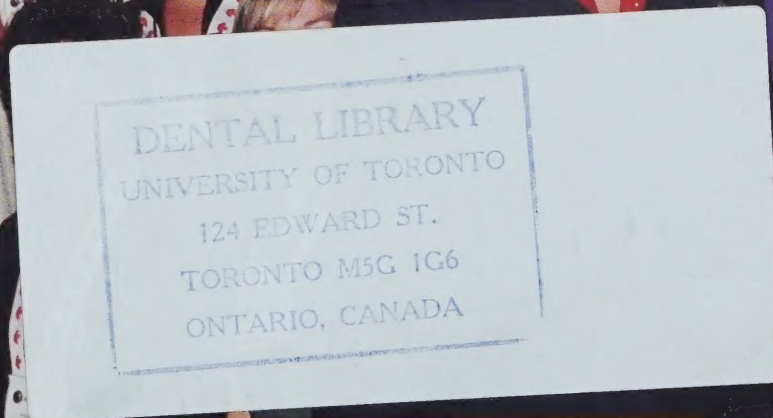
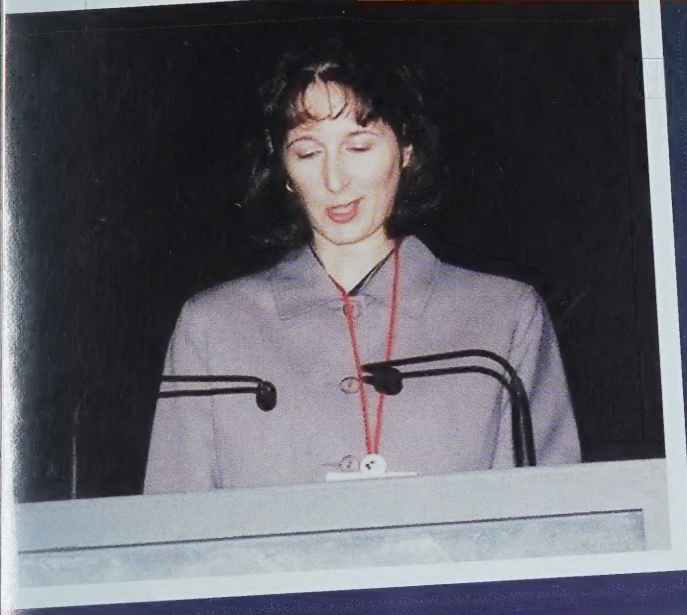
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de l'Association canadienne des hygiénistes dentaires

JANUARY/FEBRUARY 2002 VOL. 36 NO. 1



Conference Review



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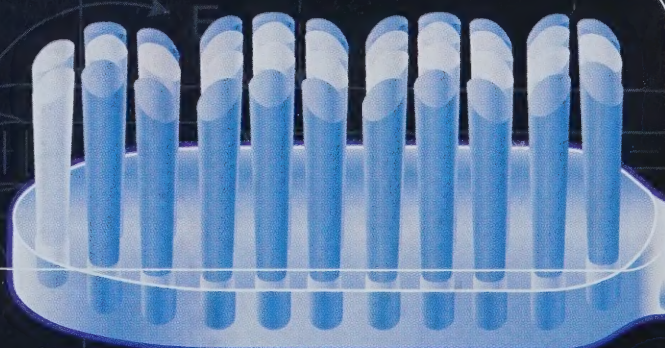


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* Reynolds, H.S. and Zambon, J.J. Microbiological and Clinical Alterations From Using Butler "GUM" Toothbrushes. J Dent Res 76, Abstract #1753. 1997.

Professional Association Membership

—An Investment in Your Social Capital

by Barbara Gibb, RDH

Let me thank you for joining your professional association and congratulate you on a wise investment in your social capital. Never heard of social capital? Let me explain.

Robert Putnam, a Harvard sociologist, wrote the book *Bowling Alone: The Collapse and Revival of American Community* (Simon & Schuster, 2000) using data from surveys on the changing behaviour of Americans over the past 25 years. Putnam concludes that social bonds are the most powerful predictor of life satisfaction. Social capital is the reward of communal activity and community sharing. This message was repeated again and again by numerous speakers at the CDHA conference in Mississauga.

You will have noticed the revised CDHA membership form this year. We are seeking this information and entering it into our membership database so the national and provincial associations can tap the wealth of knowledge and skills of our members. Through the Members Only section of the web site, you will be able to find members who have similar interests. This will help remove networking barriers, both geographical and time, and make it easier for you to communicate with one another. Be assured that this information will not be available to the public or industry.

By indicating your areas of interest or expertise, you can also benefit dental hygiene nationally. CDHA is trying to identify dental hygienists who are willing to review the literature on various issues—for example, fluoride, whitening, or other aspects of oral health—so position statements supported by current research are available to members and the public. It gives you the opportunity to contribute to the profession's credibility, and the public's health and well-being benefit from solid, evidence-based dental hygiene information.

Networks associated with social capital can make a substantial difference in the employment arena. Whether you are looking for employment or a temporary replacement, these

PROFESSIONAL ASSOCIATION MEMBERSHIP...

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Adhérer à une association professionnelle,

c'est investir dans votre capital social

par Barbara Gibb, H.D.A.



Permettez-moi de vous remercier pour votre adhésion à votre association professionnelle et de vous féliciter d'avoir fait un sage investissement dans votre capital social. Vous n'avez jamais entendu parler du capital social? Je m'explique.

Le sociologue Robert Putnam, de Harvard, a écrit le livre *Bowling Alone: The Collapse and Revival of American Community* (Simon & Schuster, 2000) à l'aide de données tirées d'enquêtes sur le changement de comportement des Américains au cours des 25 dernières années. Putnam conclut que les liens sociaux sont l'indice le plus puissant qui permette de prédire la satisfaction de vie. Le capital social est la récompense de l'activité sociale et du partage communautaire. C'est un message qui a été répété tant et plus par de nombreux conférenciers à la conférence de l'ACHD, à Mississauga.

Vous aurez remarqué que, cette année, le formulaire d'adhésion de l'ACHD est révisé. Nous cherchons à obtenir cette information et à l'entreposer dans notre base de données des effectifs, pour permettre aux associations nationales et provinciales de profiter de la richesse de connaissances et de compétences de nos membres. Grâce à la section Réserve aux membres de notre site web, vous serez capables de trouver d'autres membres dont les intérêts offrent des affinités avec les vôtres. Cela aidera à abolir les obstacles qui, dans le temps et dans l'espace, nuisent au réseautage, et à faciliter les communications entre vous. Vous pouvez être certaines que cette information sera hors d'atteinte du public ou de l'industrie.

En indiquant quels sont vos domaines de savoir-faire, vous pouvez également bénéficier à l'hygiène dentaire au niveau national. L'ACHD essaie d'identifier des hygiénistes dentaires qui consentiraient à faire un examen de la documentation sur divers enjeux comme, par exemple, le fluorure, le blanchissement ou d'autres aspects de la santé buccale, de façon à ce que les membres et le public puissent

ADHÉRER À UNE ASSOCIATION PROFESSIONNELLE...

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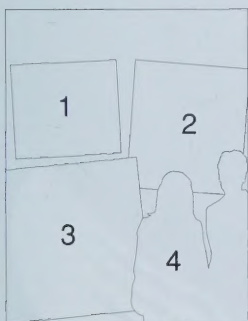
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Cover: Picture 1: Laura Carniel.
Picture 2: Life Member Award, Bonnie Craig and Salme Lavigne. Picture 3: Conference Committee: (Front row, L to R) Margit Juhasz, Elaine Matzko, Debbie Van Dyk, Susan Adams; (Second row) Laura Dempster, Marlene Heics, Kim Kirchner-Wrzonek; (Third row) Linda Berry, Donna Bowes, Pat Manacki, Linda Carnevale, Carol Buchanan, Lorraine Boomhour; (Back row) Dorothy Tkachuk, Christine Ryan.
Picture 4: Ellie Rubin, Donna Bowes

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Perspectives on the 15th International Symposium on Dental Hygiene, August 2001

by Sandra J. Cobban, RDH, MDE, Assistant Professor; and Eunice M. Edgington, RDH, MA(Ed), Associate Professor, Dental Hygiene Program, Faculty of Medicine and Dentistry, University of Alberta

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Margaret Mead noted, "As the traveler who has once been from home is wiser than he who has never left his own doorstep, so a knowledge of one other culture should sharpen our ability to scrutinize more steadily, to appreciate more lovingly, our own" (*Coming of Age in Samoa*, 1928). Her words can also apply to the culture of our profession. This past August, there was an excellent opportunity to increase our knowledge of the global culture of dental hygiene at the 15th International Symposium on Dental Hygiene in Sydney, Australia.

The International Federation of Dental Hygienists represents 23 member countries that were vividly highlighted during the opening ceremonies. A parade of flags were carried by delegates of the different dental hygiene associations and we felt a true sense of pride seeing the maple leaf carried by our IFDH delegate and our CDHA president.

The theme for the symposium, "The Dental Team—Colleagues in Oral Health," was carried through in the breadth and scope of the presentations and posters on multidisciplinary approaches to dental hygiene practice and education. Examples include an Australian presentation, "A Multi-Disciplinary Education Model for Careers of People with Dementia," and a Canadian presentation, "Dental Hygiene as Partners in Interdisciplinary Education." The scientific program included presentations and poster displays on a broad spectrum of dental hygiene practice applications and research interests. Some examples are Australia's "Preventive Dentistry for the Hematology/Oncology and Immune Compromised Patient," and "Client Centred Care" and "Validity and Generalizability Considerations in a Qualitative Investigation of the Dental Hygiene Profession" from Canada.



An increasing interest in international student exchange was shown by the number of presentations promoting this concept, including "Internationalization: Networking and the Development of a Basic Exchange Program" from Amsterdam and "Internationalizing the Learning in Dental Hygiene Education" from Canada. New models of education and delivery were also presented in "New Tasks for the Dutch Dental Hygienist: Implications for Dental Hygiene Education in the Netherlands," and "Meeting the Educational Requirements for the 21st Century: Baccalaureate Dental Hygiene Education" and "Integrating the Web into Dental Hygiene Education" from Canada.

It was difficult to choose from among the many concurrent sessions; it speaks to the maturity of our profession that so many high-calibre presentations were occurring simultaneously. Dr. Pat Johnson addressed this in her summation of the symposium during the closing ceremonies: she commented that "it was a stimulating smorgasbord of papers, posters and workshops and we sampled broadly."

The trade exhibition was excellent: comprehensive lines of products were well-displayed; exhibitors were well-informed, helpful, and willing to discuss their products and provide generous samples. It was encouraging to see how many new products had been developed solely for the prevention of oral disease. This suggests that the dental industry is becoming more aware of the important role that dental hygiene professionals play in the marketplace.

All this, plus the ambience of the modern Sydney convention centre located on beautiful Darling Harbour! The social program provided plenty of opportunities for delegates to mingle with their international counterparts. Friendships were formed and international linkages were developed. The convention centre was within walking distance of some of Sydney's top attractions, including the Sydney Fish Market and Paddy's Market with over 1,000 stalls located on three levels. A shopper's paradise! Sydney is characterized by a diversity of cuisines and much of it was accessible within Darling Harbour. Other attractions were just a monorail or ferry ride away.

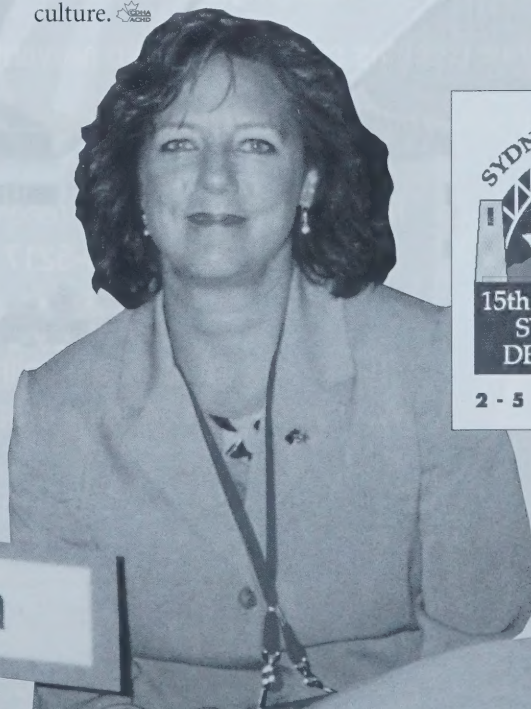
Lynda McKeown
and Patty Wickstrom



Salme Lavigne, Patty Wickstrom, Lynda McKeown, and
Heather Abbott

We would like to commend Sue Aldenhoven and the organizing committee from the Dental Hygiene Association of Australia for a well-organized and comprehensive program. Attending presentations, viewing posters, and having intense discussions with colleagues gave us the opportunity to increase our knowledge, to reflect, and to "scrutinize more steadily" our own practices. We were struck by the tremendous growth that has occurred in our profession throughout the world and we are proud of Canada's profile on the international stage.

Now we are home and indeed the wiser for our experiences, having a greater understanding of dental hygiene on a global scale and a deeper appreciation for our own dental hygiene culture. 🇨🇦



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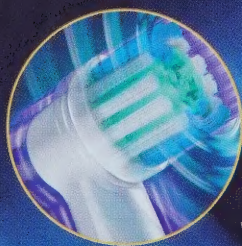
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1. Warren, PR et al. *Am J Dent* 2001;14:3-7. 2. van der Weijden, GA et al. *J Dent Res* 2001;80(Spec.Iss):119, Abstr.672.
3. Sharma, NC et al. *J Dent Res* 2001;80(Spec.Iss):548, Abstr.171. 4. Braun Oral-B 2001 Professional Use Test:
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EXECUTIVE DIRECTOR'S MESSAGE

MESSAGE DE LA DIRECTRICE GÉNÉRALE

Our Strengths

by Susan A. Ziebarth, CDHA,
Executive Director

There is no security in this life. There is only opportunity.

— Douglas MacArthur

September 11, 2001, changed the world as we knew it. Our perspectives on so many things underwent a huge shift: what had seemed urgent the day before now was irrelevant. My son asked why I kept watching the same thing on television over and over again. I explained I was trying to understand something that was real, something that had actually happened, but that didn't seem possible. In coming to grips with this tragedy, I tried to put myself in other people's shoes. How must it feel to have so much hatred and self-righteousness that you can inflict such harm on innocent people? How must it feel to be a rescue worker rushing to that site? Would you stop and think about your own family and life or just about those people you are trying to save? Can you imagine having the passion to travel from far distances to try and help at Ground Zero? What about being in Rudy Giuliani's shoes, being responsible and having the world look to you for leadership and guidance while experiencing your own sense of incredulosity and grief?

Is there anything positive that can come from this heartbreak? Perhaps it is the resurgence of national pride and sense of community. The blaze of flags in the United States is evidence of this; even television networks have changed their logos to include some elements of this national symbol.

So, what does this have to do with the Canadian Dental Hygienists Association? We are very fortunate not to have suffered such a catastrophe. But we can recognize the strength that comes from pulling together, confronting issues together, overcoming challenges. We can learn



But we can recognize the strength that comes from pulling together, confronting issues together, overcoming challenges.

Nos forces

par Susan A. Ziebarth
Directrice générale de l'ACHD

Il n'y a pas de sécurité ici-bas. Il n'y a que de la chance.

— Douglas MacArthur

Le onze septembre 2001 a changé le monde tel que nous le connaissions. Nos points de vue sur tant de choses ont connu un énorme virage : ce qui nous semblait urgent, la veille, a perdu sa pertinence. Mon fils m'a demandé pourquoi je regardais sans cesse la même chose à la télévision. Je lui ai expliqué que j'essayais de comprendre quelque chose qui était réel, qui s'était réellement produit, mais qui semblait impossible. J'ai alors essayé, par empathie, de me mettre à la place de ces personnes. Comment doit-on se sentir, avec une telle haine et un tel sentiment d'avoir raison, au point d'infliger tant de mal à des innocents? Comment doit-on se sentir d'être un sauveteur qui se précipite vers le site de ce drame? Vous arrêteriez-vous pour penser à votre propre famille et à votre vie ou seulement à ces gens que vous essayez de sauver? Pouvez-vous imaginer avoir la passion de voyager sur de longues distances pour tenter d'aller aider au Point zéro? Et si vous étiez à la place de Rudy Giuliani, en position de responsabilité alors que le monde entier se tourne vers vous pour le leadership et la direction alors que vous vivez votre propre sens d'incrédulité et de chagrin?

Quelque chose de positif peut-il émerger de cet immense chagrin? Peut-être la résurgence d'une fierté nationale et d'un sens communautaire. À preuve, le déploiement des drapeaux, aux États-Unis; même les réseaux de télévision ont modifié leurs logos pour y inclure quelques éléments de ce symbole national.

Quelle relation, alors, peut-on établir avec l'Association canadienne des hygiénistes dentaires? Nous sommes très chanceux de ne pas avoir eu à subir une telle catastrophe. Mais nous pouvons reconnaître la force qui se dégage du fait de rallier nos forces, de

OUR STRENGTHS ...continued on page 12

NOS FORCES ...suite à la page 13

about the existence of different perspectives on issues, the need for strong national pride and sense of community, and the need for passion. Let me explain.

Since September 11th, I have travelled with Dr. Ginette Rodger, our strategist, to Winnipeg and St. John's to support the self-regulation efforts of the two provincial associations. From the perspectives of geography and "personality," these two cities are very different. From the self-regulation perspective, these provinces were at very different places when we arrived. Manitoba has been working for 25 years towards self-regulation, getting valuable advice from provinces, such as Ontario,* that had achieved this status. Newfoundland is embarking on its first serious look at the issue. What unfolded with the volunteers in St. John's was a marvelous synergy—CDHA acted as a conduit for Manitoba's volunteers to generously share their knowledge. Twenty-five years of experience was being shared with volunteers just getting the wind in their sails. So, by the time we left, the provinces were getting much closer together. Thus a provincial issue is contributing to national pride; a strong sense of community, brought to life by the passion of the people involved, will produce greater professional strength.

What relevance does this have to others in the country? A great deal. First, it is an excellent example of working together and breaking down geographical barriers. Second, although health care is provincially regulated, the outside world views the profession nationally. So dental hygiene, to move forward, has to emerge as a national profession with common degrees of responsibility and scope across the country. Any external body, in interactions with the dental hygiene profession, wants to know who it is dealing with and not to have to disentangle provincial nuances. This is true whether we are talking about collegial professions, third-party payers, the federal government, or the public. We need to break down geographical barriers and share our wealth of resources. Manitoba's willingness to share their knowledge has helped us all.

The profession of dental hygiene does not have the amount of resources that some other professions possess, so we have to be smarter in using those we do have. CDHA is building communication tools and a knowledge base to help you share resources among yourselves. Over the coming weeks, the re-launched Members Only web site will have new tools to enable you to share your knowledge and expertise with others across the country.

CDHA is building

communication tools

and a knowledge

base to help you

share resources

among yourselves.

I have just celebrated my first anniversary with CDHA. During this year, we have experienced some examples of differing perspectives, passion, and sense of community that I would like to share with you:

■ This issue of *Probe* highlights last September's "Dental Hygiene Odyssey... genesis" conference in Mississauga, the most ambitious conference carried out by the association. The volunteers, led by Conference Chair Donna Bowes, were passionate in their work and deserve tremendous accolades. Their work was more difficult because there were great changes occurring at the CDHA office while the volunteers were under the stress of planning the event. We were looking at the same issue from different perspectives; staff and volunteers had not established explicit expectations and this led to some frustration. But now the volunteer conference team has increased the body of knowledge within CDHA that will carry forward to future events. The conference team, in addition to creating wonderful memories for conference

participants, has provided us all with a lasting gift of knowledge that will strengthen the dental hygiene community.

■ The cover of the September *Probe* ignited the passion of many British Columbia dental hygienists who were offended and for that we apologize. This clearly shows the issues that can arise because dental hygiene practice differs across the country. So, contribute to the community and send us photographs of dental hygienists in action so we can profile the profession proudly.

■ Finally, there are some areas of the country where people think CDHA is moving too quickly; in other areas, they feel we are moving too slowly. Despite the differing perceptions of the speed, the feedback indicates that members recognize that we are moving forward. This is wonderful.

So, at the beginning of this new year, let us celebrate professional passion and rekindle the spirit of national pride. Broadening our minds, extending our tolerance levels, and pondering the different perspectives of our colleagues will help us grow together.

* A special thank you to Fran Richardson, Registrar of the College of Dental Hygienists of Ontario, who volunteered her time to attend the meeting in Winnipeg and a meeting in May in Halifax to act as a resource person. 🐾

confronter des enjeux ensemble, de surmonter des défis. Nous pouvons tirer des leçons des différents points de vue exprimés sur les questions, du besoin d'un fort sentiment de fierté nationale, d'un sens communautaire ainsi que d'un besoin de passion. Je m'explique.

Depuis le 11 septembre, je me suis rendue à Winnipeg et à St. John's avec notre stratège, Ginette Rodger, Ph. D., pour soutenir les efforts d'auto-réglementation de ces deux associations provinciales. Du point de vue de la géographie et de la « personnalité », ces deux villes sont très différentes. Du point de vue de l'auto-réglementation, ces provinces étaient aussi fort loin l'une de l'autre, à notre arrivée. Au Manitoba, on travaillait depuis 25 ans à l'auto-réglementation, obtenant de précieux conseils de provinces, comme l'Ontario* où on avait acquis ce statut. Terre-Neuve se met sérieusement à cette tâche, pour la première fois. Une splendide synergie est survenue chez les bénévoles de St. John's — l'ACHD servant d'intermédiaire permettant aux bénévoles du Manitoba de partager généreusement leurs connaissances. Vingt-cinq ans d'expérience étaient ainsi partagés avec des bénévoles qui en étaient tout juste sur leur lancée. Tellement qu'à notre départ ces deux provinces étaient en train de se rapprocher beaucoup. C'est ainsi qu'une question d'ordre provincial contribue à la fierté nationale; et un solide sens communautaire, né de la passion des personnes impliquées, produira une force professionnelle plus grande.

En quoi cela concerne-t-il les autres, ailleurs au pays? Sous plusieurs aspects. D'abord, c'est un excellent exemple de travail en commun et d'affranchissement des barrières géographiques. Ensuite, même si la réglementation des soins de santé est de compétence provinciale, de l'extérieur la profession est considérée sur le plan national. Donc, pour marquer des progrès, l'hygiène dentaire doit émerger comme une profession nationale dotée de niveaux communs de responsabilité et d'une portée commune dans l'ensemble du pays. Tout organe externe en interaction avec la profession de l'hygiène dentaire veut savoir avec qui transiger, sans avoir à démêler les nuances provinciales. C'est ainsi, qu'il s'agisse de question de professions collégiales, de tiers payeur, du gouvernement fédéral ou du public. Nous devons abaisser les barrières géographiques et partager nos ressources. La volonté manifestée par le Manitoba de partager ses connaissances nous a tous aidés.

La profession de l'hygiène dentaire ne dispose pas d'autant de ressources que certaines autres professions; nous devons donc avoir plus de doigtée dans l'utilisation des ressources dont nous disposons. L'ACHD est en train d'élaborer des outils de communication et une base de connaissances pour vous aider à partager les ressources entre vous. Au cours des prochaines semaines, la section du site web Réservé aux membres, une fois relancée, disposera de nouveaux outils pour vous permettre de partager vos connaissances et votre savoir-faire avec les collègues des autres parties du pays.

Je viens tout juste de célébrer mon premier anniversaire à l'ACHD. Pendant cette année, nous avons fait l'expérience de points de vue différents, de la passion et du sens communautaire que j'aimerais partager avec vous :

- Ce numéro de *Probe* met en relief la conférence « L'Odyssée... la genèse de l'hygiène dentaire » de septembre dernier, à Mississauga, — la conférence la plus ambitieuse à être tenue par l'association. Les bénévoles, sous la direction de la présidente de la rencontre, Donna Bowes, y ont travaillé avec passion et méritent donc de chaleureuses accolades. Le travail a été rendu plus difficile en raison de grands changements qui survenaient au bureau de l'ACHD alors que les bénévoles étaient sous le stress de la planification de l'événement. Nous regardions la même question sous des angles différents; le personnel et les bénévoles n'avaient pas établi d'attentes explicites, d'où une certaine frustration. Mais l'équipe bénévole de la conférence a maintenant rehaussé l'ensemble de connaissances, au sein de l'ACHD, ce qui se reflétera sur les événements à venir. L'équipe de la conférence, en plus de créer de merveilleux souvenirs pour les participants à la conférence, nous a fait le don de connaissances durables qui renforceront la collectivité de l'hygiène dentaire.
- La couverture du numéro de septembre de *Probe* a mis le feu aux poudres chez plusieurs hygiénistes dentaires de la Colombie-Britannique, et nous nous excusons de les avoir offensés. Ce qui démontre clairement les enjeux qui peuvent surgir à cause des différences de pratique de l'hygiène dentaire, d'un point à l'autre du pays. Ainsi, contribuez à la collectivité en nous faisant parvenir des photos d'hygiénistes dentaires à l'œuvre; nous pourrions ainsi présenter avec fierté un profil de la profession.

- Enfin, il y a certains points du pays où l'on pense que l'ACHD va trop vite; ailleurs, on a le sentiment que nous allons trop lentement. Malgré les différences de perceptions, les commentaires indiquent que les membres reconnaissent que nous progressons. Ce qui est merveilleux.

Alors, en ce début de nouvelle année, célébrons la passion de notre profession et ravivons notre esprit de fierté nationale. Une plus grande largeur d'esprit, l'extension de nos niveaux de tolérance et la réflexion sur les différences de points de vue de nos collègues contribueront à notre croissance commune.

**Mais nous pouvons
reconnaître la force
qui se dégage du fait
de rallier nos forces,
de confronter des
enjeux ensemble, de
surmonter des défis.**

* Un merci particulier à Fran Richardson, Registrare de l'Ordre des hygiénistes dentaires de l'Ontario, qui a généreusement donné de son temps, comme personne-ressource, pour assister à la réunion de Winnipeg et à une réunion, en mai, à Halifax. 🐾

October Meeting of the CDHA Board: Highlights

OCTOBER 20, 2001

The Board discussed its support for a new IFDH (International Federation of Dental Hygienists) research journal, whose launch is expected in March 2002. Published quarterly, this journal will contain peer-reviewed articles and educational news about dental hygiene and oral sciences.

Support was strong for continuing a national annual conference. Board members believe that the conference provides an opportunity to come together to promote the profession, network, learn, and share knowledge.

Susan Ziebarth announced the re-launch of CDHA's public web site for National Dental Hygiene Week™. The redesigned site includes a new children's section, <www.smilecity.ca>.

The Board approved a change to the focus of National Dental Hygiene Week™. It will now concentrate on the profession of dental hygiene as opposed to dental hygiene and will be known as National Dental Hygienists Week™.

The Mission and Purpose Ends Policy was amended to include the following statements:

- There will be a National Dental Hygienists Week™ annually to promote the profession of dental hygiene.
- There are no financial or other barriers to the public's access to the services of dental hygiene.

- There is accountability through self-regulation in all jurisdictions.
- Health care partners recognize oral health education and promotion as valuable and cost-effective components of services provided.
- The federal and provincial governments recognize oral health care as an integral aspect of health.

The Priorities Policy was amended as follows:

- Ensuring that the annual conference supports the current mission, guiding principles, and ends policies of the CDHA
- Supporting and encouraging the separation of CDAC Committee #2 and the establishment of a distinct standing committee for the review of dental hygiene programs

Karen Wolf was acclaimed as CDHA President-Elect;

Lynda McKeown was reappointed as Senior Representative to IFDH; and Patty Wickstrom's term as Junior Representative to IFDH was extended to allow for a seventh year.

The Board drafted and approved a new Dental Hygiene Client's Bill of Rights. The Bill of Rights is reproduced on the next page and will also be available for downloading and printing from the CDHA web site at <www.cdha.ca>.

CDHA STAFF ANNOUNCEMENTS

We say farewell to **Sandra Van Wart** who has left CDHA after 12 years of dedication in Membership Services. We wish Sandra all of the best in her future endeavours.

We are pleased to announce that the CDHA team has some new members. Please join us in extending a warm welcome to the following new staff:

- **Judy Lux** was appointed on September 10, 2001, to a new position as Health Policy Communications Specialist. Judy was formerly a Health Planner at Centretown Community Health Centre where she worked with primary care, addictions, health promotion, community development, and social services. Prior to this, she was employed for a number of years in the disability field with non-profit organizations, including the Ontario March of Dimes and Disabled Persons Community Resources. She has extensive experience in communications, health policy, advocacy, partnerships, and research plus strong academic training—a masters degree in social work, specializing in policy and administration.
- **Martine Proulx** will assume a new position on January 2, 2002, as Conference and Membership Co-coordinator. Since graduating with a bachelor's degree in political thought, with a minor in history, she has 10 years of experience in the service/hospitality industry. She was most recently at the Fairmont Château Laurier working with the General Manager, the Director of Operations, the Director of Food and Beverage, and the Sales Department. Prior to that, she was a Human Resource Assistant with Canadian Blood Services. She has excellent customer relation skills and extensive administrative experience.
- **Amira Saleh** joined the team on October 9, 2001, as Receptionist. She is an enthusiastic, dedicated young woman with excellent customer service skills. Formerly, she worked at Hintonburg Community Centre as a receptionist, and child and disability counsellor. Following high school, she studied recreation and leisure.

D E N T A L H Y G I È N E

Client's Bill of Rights

You have the right to:

- Choose the registered dental hygienist providing care;
- Know the credentials of your dental hygienist;
- Professional care based on current Dental Hygiene Standards of Practice;
- Care guided by the Dental Hygiene Code of Ethics;
- Confidentiality;
- Be treated with respect;
- Understand your care;
- Participate in the choices about your care;
- Benefit from prevention and health promotion strategies;
- Care that meets your needs;
- Be referred to other health care providers as necessary;
- Have your concerns heard and responded to by a provincial regulatory body.

Charte des droits du client relativement

À L'HYGIÈNE DENTAIRE

Vous avez le droit de :

- Choisir l'hygiéniste dentaire agréé(e) qui vous dispensera des soins;
- Connaître les références de votre hygiéniste dentaire;
- Recevoir des soins professionnels conformes aux normes de pratiques actuelles en hygiène dentaire;
- Recevoir des soins s'appuyant sur le code de déontologie de l'hygiène dentaire;
- Être traité(e) de façon confidentielle;
- Être traité(e) avec respect;
- Comprendre les soins dispensés;
- Participer aux choix touchant vos soins;
- Bénéficier de stratégies de prévention de la maladie et de promotion de la santé;
- Recevoir des soins répondant à vos besoins;
- Être référé(e), au besoin, à d'autres dispensateurs de soins de santé;
- Avoir audience – et réponse – d'un organisme de réglementation provincial relativement à vos préoccupations.



THE CANADIAN DENTAL
HYGIENISTS ASSOCIATION

L'ASSOCIATION CANADIENNE
DES HYGIÉNISTES DENTAIRES

96 Centrepointe Drive, Ottawa, ON K2G 6B1
1 800 267-5235 www.cdha.ca info@cdha.ca

Report of the Year's Activities

by Laura MacDonald, Past President, DHEC/ÉHDC

Dental Hygiene Educators Canada/Éducateurs en hygiène dentaire du Canada has had its first year as an established organization working with letter patents. The association's aims are to

- Foster excellence in teaching, learning, and educational research;
- Promote evidence-based dental hygiene education;
- Promote opportunities for the continuing professional development of dental hygiene educators; and
- Facilitate the exchange of information and expertise to develop dental hygiene education nationally and internationally.

As DHEC/ÉHDC is still a new organization, its board of directors continues to iron out the wrinkles that are encountered in the establishment of such groups. At the recent annual general meeting held in Mississauga, Ontario, on September 20, 2001, by-laws relating to non-voting individual membership were amended, and elections were held for two board members—one director-at-large and the vice-president. The board currently consists of the following members:

Regional Members

Atlantic Provinces	Terry Mitchell, Dalhousie University
Quebec	Francine Trudeau, John Abbott College

Ontario	Evie Jesin, George Brown College
Manitoba	Laura MacDonald, University of Manitoba (Past President)
Saskatchewan	Nancy Bateson, SIAST (President-Elect)
Alberta	Eunice Edgington, University of Alberta
British Columbia	Patricia Noble, College of New Caledonia

Directors-at-large

Margaret Wilson	University of Alberta (President)
Sylvie Martel	DENTSPLY Canada (on leave from La Cité)
Harriet Rosenbaum	Manitoba Dental Hygienist Association
Susanne Sunell	Vancouver Community College

DHEC/ÉHDC has been actively involved over the several past years with representation to the Canadian Dental Hygienists Association (Susanne Sunell); Council on Education, Canadian Dental Association (Laura MacDonald); National Dental Hygiene Certification Board (Giselle Johnson); and the Commission on Accreditation (Nancy Bateson).

DHEC/ÉHDC has produced a draft Policy and Procedure Manual, developed a web site (including, for example, an educators directory, Best Practice Project), and is conducting discussions regarding baccalaureate education for entry to practice in dental hygiene.

In January 2001, DHEC/ÉHDC met with the Canadian Dental Hygienists Association, National Dental Hygiene Certification Board, Federation of Dental Hygiene Registrars Association, and the Commission of Dental Accreditation (although unable to attend) to discuss the CDHA's Baccalaureate Position Statement. Discussion is ongoing. Wanting to hear from the members of DHEC/ÉHDC, the association held an educators' workshop facilitated by Dr. Ginette Rodger, a well-known political strategist. The highlights of this workshop are on page 17. DHEC/ÉHDC also hosted a Program Heads Meeting just prior to the workshop.

We are a growing association. As DHEC/ÉHDC strives to be an inclusive association, anyone who is interested in dental hygiene education and subscribes to the objectives of DHEC/ÉHDC is welcome to contact the association for more information at:

DHEC/ÉHDC Administrative Offices
4304 123 Street
Edmonton, Alberta T6J 1Z8

THE CANADIAN DENTAL HYGIENISTS ASSOCIATION

L'ASSOCIATION CANADIENNE DES HYGIÉNISTES DENTAIRES

E-MAIL ADDRESSES

Please ensure we have your correct e-mail address so you receive timely announcements. At the moment, approximately 72 per cent of CDHA members have Internet access at home or work; 50 per cent check e-mail at least weekly; and 59 per cent check at least monthly. For those who do not own computers, you can log onto public access computers at most community libraries where you can obtain your own free e-mail address. Check out the possibilities that await you there.

PHOTOGRAPHS

We want to develop a collection of good-quality, current photographs showing dental hygienists—carrying out the varied activities of the profession or marking special events—for use in *Probe* or for public relation events. Just include a note, signed by everyone in the picture, that gives us permission to use the photo.

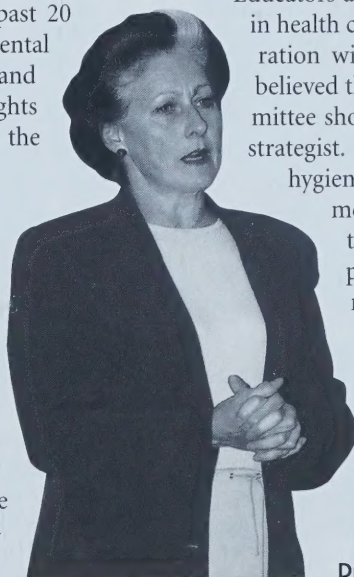
Conference Workshop—Highlights

by Evie F. Jesin, RRDH, BSc, Coordinator

The third annual Dental Hygiene Educators Canada (DHEC) workshop was held on September 20, 2001, in conjunction with CDHA's 2001 conference in Mississauga. The purpose of the workshop was to investigate the CDHA position statement that a baccalaureate degree in dental hygiene be the required credential for entry to dental hygiene practice for all new students commencing in the year 2005. Fifty-three educators from across Canada met to discuss the issue with facilitator, Dr. Ginette Rodger. Dr. Ginette Rodger is the President of Lemire Rodger and Associates, the Chief of Nursing at the Ottawa Hospital, and the President of the Canadian Nurses Association.

Under the guidance of Dr. Rodger, a political action framework was presented and applied to the issue of approval of a baccalaureate degree in dental hygiene. This framework has guided successful political action for the past 20 years in health care, education, legislation, dental hygiene, nursing, health administration, and intersectorial groups. Here are some highlights of a political action plan as discussed in the workshop:

- Political action involves the act of persuasion since there will be similar and opposing values. Political action should be part of the dental hygiene curriculum and representatives should have strong dental hygiene values.
- The goals must be crystal clear to all and a systematic process must be followed, including appropriate timing. The message must be presented to those who can make it happen. Dental hygienists must recognize dental hygiene



Dr. Ginette Rodger at the conference workshop.

alliances and join forces. It is also important for dental hygienists to know the barriers that may exist and to confront and dismantle the barriers as required.

- Dental hygienists must identify their strengths, for example, a specific knowledge base.
- Dental hygienists must influence the target population while being aware of opposing arguments.
- Dental hygienists must choose a "target" and develop individuals and groups who are able to influence the target.
- Values must be confronted one at a time with the opposition; it is important to note that a neutral body is as good as a positive alliance.
- Dental hygienists must identify resources to assist in the political action framework.

Educators at the meeting felt that there are new demands in health care and that dental hygienists work in collaboration with other health professionals. The educators believed that, to fully consider the issue, a strategy committee should be struck with a coordinator and a hired strategist. The political process framework for dental hygiene would involve planning the strategy, implementing it, and then evaluating and readjusting the strategy. As health care and education are provincial responsibilities, each province would review the information as appropriate.

On behalf of the DHEC members, a special thank you is extended to CDHA for their assistance in sponsoring Dr. Ginette Rodger and to DENTSPLY Canada Limited for their assistance in ensuring that the workshop was a successful event.

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TimeOral is a strategy and professional management organization dedicated to the business of dentistry.

TimeOral's recruitment program is currently accepting resumes for the following full time, part time and temporary positions:

- Hygienists - Assistants - Receptionists - Office Managers

Interested applicants should forward resumes to recruitment@timeoral.com



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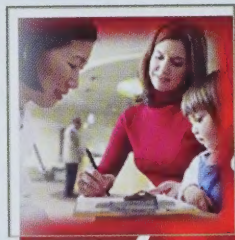
CDHA Presents A Brief to the Commission on the Future of Health Care

The Commission on the Future of Health Care is undertaking a public dialogue with Canadians on the public health care system. Headed by Commissioner Roy Romanow, this independent Commission is currently in phase one, a fact-finding exercise—a review of past literature plus formal submissions by health and health care groups and organizations. The Commission's research agenda has four themes: Canadian values, sustainability, managing change, and co-operative relations. The Commission provided an important opportunity to have the voice of dental hygienists across Canada heard at a national level and thus CDHA submitted a brief. You can read it on our web site at www.cdha.ca/content/newsroom/pdf/Report103101.pdf. In January 2002, the Commission will submit to the government an interim report based on information from the first phase. The second phase, in the first half of 2002, will comprise in-person public consultations and CDHA looks forward to making a verbal presentation to the Commission at that time. The final Commission report with recommendations will be submitted to the federal government in fall 2002. For more information on the Commission, please visit their web site at www.healthcarecommission.ca.

CDHA's brief allows dental hygienists to contribute from an oral health perspective to the debate about the future of Canada's health care system, to highlight the importance of the connection between oral and general health, and to advocate for increased public access to dental hygiene services. A groundbreaking report by the U.S. Surgeon General supports the link between oral and general health and well-being.* The report shows that poor oral health is linked to low birth weight in babies; periodontal diseases may be linked to heart and respiratory diseases, osteoporosis, and diabetes; and dental plaque is linked to peptic ulcers. Based on these findings, CDHA calls on the federal government to take a lead role in integrating oral and general health care delivery.

The brief calls for Medicare coverage for promotion of oral health and prevention of disease through delivery of dental hygiene services. A first step in this direction is a strong recommendation for a federal government response to the unmet oral health care needs of populations at risk. These Canadians include people with low socio-economic status, limited access due to physical disability, or illness; Canadians who are far from services, live on a reserve, and lack or have restrictive dental insurance plans. This increase in public health care spending will bring Canada a little closer to the average public health care spending for other OECD (Organisation for Economic Co-operation and Development) countries.**

SHAPE THE
FUTURE
OF HEALTH CARE



The brief provides examples of unmet oral health care needs from across Canada, including a dental hygiene volunteer program for persons with ALS in Ontario, which provides oral hygiene education and at-home clinical therapy. To demonstrate flaws in the health care system that make it fiscally unsustainable, an example from British Columbia shows that dental procedures are the most common surgical procedure that children receive in the hospital. The high costs associated with this surgery more than justify increased government spending on less costly preventive dental hygiene services.

The simplest, most effective, and least costly way to improve public access to dental hygiene for Canadians is to alter existing provincial regulations and oral health care acts to permit dental hygienists to practise in alternative settings. The requirements for ongoing supervision by dentists and involvement of a dentist prior to dental hygiene care are inconsistent with the training, function, and abilities of dental hygienists. Changing these requirements will allow dental hygienists to practise co-operatively alongside dentists in their private practices and clinics as well as in alternative settings that include outreach and home care programs, long-term care facilities, community health centres, and schools. It will also allow mobile practices that can reach isolated populations. The vision of improved access can be realized once the federal government declares that dentists have no authority over dental hygienists via supervision orders, examination, direction, or pre-authorization of services.

Research and the development of health human resources are explored in the context of improving the quality of services and public accountability. CDHA calls for the federal and provincial governments to work together to provide leadership, direction, and support for educational institutions in their move from diploma to baccalaureate programs. The federal government is also encouraged to incorporate dental hygiene issues into existing research conducted at the Canadian Institutes of Health Research (CIHR) and the Health Transition Fund, and into other overlapping fields of practice that include health promotion, prevention, the determinants of health, and general health. This research will have a positive impact on the quality of services, influence the availability and delivery of care, and provide accountability to the public.

The brief challenges the federal government to implement a number of recommendations. It also re-affirms CDHA's commitment to working collaboratively with the federal and provincial governments, the public, and other health care providers and stakeholders to better meet the oral health care needs of Canadians.

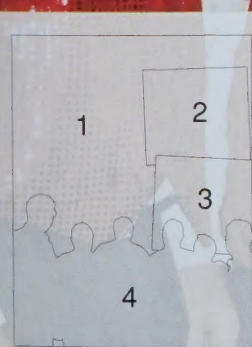
* U.S. Department of Health and Human Services: *Oral health in America: A Report of the Surgeon General*. Rockville, MD: USDHHS, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000 [On-line at www.surgeongeneral.gov/library/oralhealth/default.htm]]

** Canadian Healthcare Association: *The Private-Public Mix in the Funding and Delivery of Health Services in Canada: Challenges and Opportunities*. Ottawa: CHA, p.xii, 2001

Conference Review



2001 September 21-23
A Dental Hygiene Odyssey
genesis



Picture 1: Mississauga Newnorth Rhythmic Gymnastics. Picture 2: Oral-B/CDHA Student Scholarship Award, Ibtesam Issa and Salme Lavigne. Picture 3: Colgate/CDHA Community Health Award, Jane Waites and Salme Lavigne. Picture 4: A Medley of Canadian Music — Justus & Friends





 **2001** *September 21-23*
A Dental Hygiene Odyssey
genesis 





2001

2001 september 21-23
A Dental Hygiene Odyssey
genesis



Evolution, NOT Revolution

by Fran Richardson, RDH, BScD, MEd

The following is a summary of a presentation made at the CDHA Conference in September 2001, Mississauga, Ontario.

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Fran Richardson



2001 September 21-23
A Dental Hygiene Odyssey
CDHA
ACHD
genesis

Dental hygiene is changing, evolving, blossoming into a true profession with unique standards of practice, codes of ethics, and the ability to regulate itself in the public interest. This is a natural process, one that occurs with all developing professions. However, there are unfortunately some individuals and organizations within the health care community that feel threatened and uncomfortable with this evolutionary process. There are those who would keep dental hygiene constrained by dentistry even though it is in the public interest for dental hygienists to be able to meet the needs of the clients when and where the clients require the services. Dental hygienists are still the only regulated health care professionals in North America who are regulated by their primary employer. Fortunately, many governments are seeing that this arrangement is a conflict of interest and are passing legislation for dental hygiene self-governance. Some characterize this as a revolution. It is not—it is evolution! Here are the two words as defined in the *Canadian Oxford Dictionary*:¹

revolution: 1. the forcible overthrow of a government or social order, in favour of a new system; 2. any fundamental change or reversal of conditions; 3. the act or an instance of revolving; 4. a motion in orbit or a circular course or round an axis or centre; 5. a cyclical recurrence

evolution: 1. gradual development, especially from a simple to a more complex form; 2. a process by which species develop from earlier forms, as an explanation of their origins; 3. the appearance or presentation of events etc. in due succession; 4. a change in the disposition of troops or ships; 5. the giving off or evolving of gas, heat, etc.; 6. an opening out; 7. the unfolding of a curve

In 2001, the oral health professions should take heed of advice given almost a hundred years ago:

*The prevention of oral sepsis in the future, with a view to lessening the incidence of systemic diseases, should henceforth take precedence in dental practice over preservation of the teeth almost wholly for mechanical or cosmetic purposes, as has been so largely the case in the past.*²

But health may not be the main interest of many practitioners in these days of decreasing dental caries and more educated dentate consumers. Recently (2001) the following message was heard on the answering machine at a local dental office: "We specialize in cosmetic imaging, smile enhancement techniques and technologies." Is dentistry promoting health or cosmetics?

There are those who would keep dental hygiene constrained by dentistry even though it is in the public interest for dental hygienists to be able to meet the needs of the clients when and where the clients require the services.

Dental Hygienists have allowed themselves to be controlled by their environment. That is, they gave up ownership of their dental hygiene procedures and allowed dentists to assume direction. Dental hygienists have apathetically accepted dentists' emphasis on technical procedures. Often, compromising our principles has been easier than engaging in collaborative discussion with the employing dentist for the betterment of the client. Dental hygienists must rekindle the tradition of assuming responsibility for the appropriate dental hygiene care of the client.³

Vision is important for the oral health care professions. That vision must be client centred, meaning that the client is of primary importance. Dental hygienists are willing and mobile enough to reach out to the segment of the population that requires our services, yet is unable to come to the traditional dental office. Dental hygienists aren't the only ones who recognize that need, but few dentists have the courage to articulate the truth.

I believe that dentistry needs a vision for ourselves, as well as for hygienists; and I believe hygienists need their own vision. I believe we need to substantially broaden hygienists' education and skills. We need to increase the quality of education and what they can do at a progressive level, such as being able to administer anesthesia and being able to root plane, and, as unpopular as it may be, I support independent hygiene practice. I think we need to let go; to give up the control that we insist on having over the hygienists.⁴

The beginnings

On September 29, 1948, the RCDSO directors issued draft bylaws with regard to "Requirements for Admission to the Study of Dental Hygiene."⁵ These requirements were to

Be a person who:

- (1) is 18 years of age, of the female sex, and
- (2) has graduated from Grade XIII in duly qualified Ontario school, including graduation in the subjects of Chemistry, Physics and Biology, or
- (3) possesses educational qualifications from a school or schools elsewhere other than in Ontario equivalent to the standards required of an applicant who is a graduate of an Ontario School, and
- (4) establishes to the satisfaction of the Board of Directors of the Royal College of Dental Surgeons of Ontario that she possesses the aptitude, capacity and character to become and act as a competent and ethical dental hygienist.

The problem of elevating the status of dental hygienists is quite similar to that facing dentistry in its early days. When the Baltimore Dental College was founded, dentistry was being practised almost as a mechanical art; the transition from a mechanical art to an essential health service is the result of time and effort spent by dental leaders.⁶

There were supporters who wanted to ensure that dental hygiene was a viable entity in Canada:

Firstly, the services which dental hygienists are presently legally and academically competent to perform should be

broadly expanded. Secondly, facilities for training should be augmented and created and in conjunction a much broader program of candidate recruitment should be pursued. Thirdly, I think that we should take sex [gender] out of dental hygiene."

I wonder when dentistry is to catch up with the rest of the world around us.⁷

There is a strong recognition today that dental hygiene is a primary health care profession:

Dental hygienists are the experts on dental hygiene education and practice, while dentists are oral health generalists, with additional concentrated training in restorative skills.

...a dental hygiene board would eliminate the conflict of interest that exists today when employer dentists regulate their own employees and often make decisions based on the economics of the private dental office rather than access to care and competence assurance.⁸

Also recognized is the fact that dental hygienists are concerned about overall health and the systemic effects of oral disease:

Another disease with an oral connection is heart disease ... claiming more victims than all forms of cancer and AIDS combined.

Another disease that has oral manifestation is diabetes.

Dental hygienists also can see the signs of osteoporosis ... eating disorders such as anorexia nervosa and bulimia nervosa ... but especially bulimia.⁹

The potential impact of optimal oral health is illustrated by the following statements:

The American Fund for Dental Health reported Americans lost 28.7 million work or school days to dental problems. And the Coalition for Oral Health reports that 20 million work days are lost annually due to oral health problems.

... every dollar invested in preventive care saves between \$8 and \$50 (US) of more costly care.¹⁰

As the profession evolves, dental hygienists are becoming increasingly aware of their value within the health care system.

Take pride in your work and in your profession. Care so much about patient service that it defines your very professional being. But don't be ashamed to stand up and say you are special, important, essential and worth a great deal to people and dentistry.¹¹

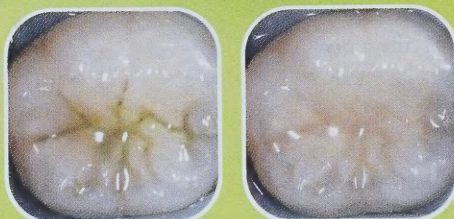
The future of dental hygiene in Canada does not lie in the traditional private practice with our dentist colleagues. Yes, dental hygienists will continue to practise in this mode. But we will go the way of the dinosaur if we don't also reach out into the community, make ourselves known to our other health colleagues, and create those opportunities that we've always talked about. We need to stop relying on dentistry and to rely on ourselves. We live in a society that is becoming increasingly conscious of prevention—proactive with health issues, interested in health promotion. Dental hygienists with their many transferable skills are well-positioned to make a difference. But the public needs to know who we are,

Déjà-View

Introducing The New Clear Sealant With Reversible Color.
Your curing light brings back the color, recall after recall...

Recall

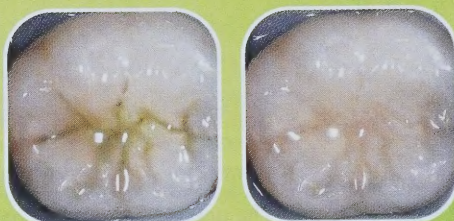
After exposure
to curing light



Color disappears
after 10 minutes

After Recall

After exposure
to curing light



Color disappears
after 10 minutes

After Recall

After exposure
to curing light



Color disappears
after 10 minutes



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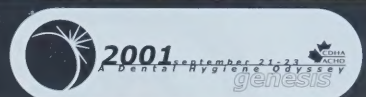
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The following is a summary of a presentation made at the CDHA Conference in September 2001, Mississauga, Ontario.

From Clinic to Desk



by Angela Best, National Clinical Manager, DENTSPLY Canada

I'd like to say that deciding to shift the direction of my career from clinical dental hygiene to working with a manufacturing company took years of deliberation, long talks with many people who had made the change, lots of introspection, and a critical look at what I wanted to accomplish in life. That's what I'd like to say! In fact, my decision to apply for and accept a position as a sales representative with DENTSPLY Canada happened in the span of three to four weeks. It was a lucky guess on my part, as I've had opportunities beyond my imagination to grow professionally since starting with DENTSPLY seven years ago. Now, as the National Clinical Manager for DENTSPLY Canada, I am exactly where I want to be, and more importantly, can see new challenges that encourage me to grow even more professionally.

I've had an opportunity to look back in hindsight and believe I can offer some sound advice to anyone thinking of using their dental hygiene background in an alternate way, specifically, working in industry.

Here's my list of what to think about before making a shift from clinical practice to industry:

1. Are you able to travel...and travel a lot? As a sales representative, I had a large territory that required me to be on the road for several days at a time, several times a month. In my current position, I can be away from home as much as 50 per cent of the time.
2. Are you able to adapt to change quickly? Decisions are made that may require you to do a complete turnaround in your thinking in a short period of time. This may mean that much of the work you have done needs to be redone, or that you will need to provide information in a very short time frame. Your flexibility and adaptability will be key characteristics in determining your stress factor.

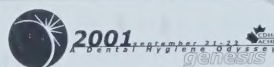
3. Do you need everything to be perfect? Industry does not always allow for perfection. Time frames and deadlines are what you live by; sometimes that means presenting a project even when it is not completed. The difference is—you need to make it *look* completed.
4. Are you prepared to work long hours when necessary? There are times you will need to put in more than a 40-hour week...sometimes it may be 50 or 60! There is no such thing as overtime or days off in lieu of overtime. The idea is, work for however long it takes you to get the job done.

The advantages and rewards for me have been tremendous. Opportunities to further my professional development, formal education, and learning experiences have easily tripled. I feel challenged and satisfied on an almost-daily basis. I see immediate results, and sometimes long-term results, from programs I have been able to implement. Financially I've had to weigh the value of medical and dental benefits, bonuses, car allowances, stock options, and other perks that were not previously available to me. The flexibility in work hours has also been a benefit. Although I work long hours, I can run to the bank if I need to, take a longer lunch when necessary, and even occasionally work from home. I am more connected to the dental world than I have ever been, and I am valued as a dental hygienist as an integral part of our company plan and commitment to oral health professionals.

As the saying goes, "Do as I say, not as I do!" Before deciding, evaluate your own reasons for making a change, define what you are looking for in a career, speak to many people, and ask questions. I have found my niche; I've been lucky. ☺

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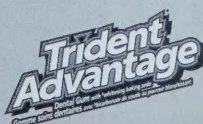


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2001 September 21-23
A Dental Hygiene Odyssey
genesis

The CDHA Odyssey Bus Tour: All Aboard!

by Susan A. Ziebarth
CDHA, Executive Director

The work of the Canadian Dental Hygienists Association can best be described as a journey, one designed to improve both the lot of dental hygienists and the oral health of Canadians. During the President's Reception at the 12th Annual Conference in Mississauga on September 21, 2001, the road trip analogy was used in a speech to members about the role the CDHA—and everyone else involved in this important work—plays in their professional lives. This article is based on that presentation.

"The wheels on the bus go round and round..."

THE BEST-LAID PLANS

With any extended road trip, sometimes you find yourself enjoying a leisurely cruise down a newly paved highway and sometimes you have to strap yourself in for a wild ride over rocky terrain. But the CDHA journey into what is often uncharted territory has never been dull. We take the tour with a deep sense of satisfaction knowing that we are contributing in a significant way to the oral health and overall well-being of all Canadians.

As I said, this is an extended tour and as your tour guide and bus driver, I'd like to begin with a few housekeeping notes to ensure everyone has a safe and comfortably journey. First, we will be stopping around six for dinner but we do have snacks on board for those who can't wait. As for the washroom, it can be found at the rear on the left. One final thing: *please* talk to the bus driver. If you've been down these roads before, you may have some valuable information to pass along. I welcome the input.

WHERE ARE WE GOING?

Although hitting the open road bound for destinations unknown can be fun under certain circumstances, the CDHA Odyssey has booked this tour with a specific destination—actually, several of them—in mind. These destinations—called *Ends Statements*—have been chosen by the CDHA board of directors, a group of members elected to govern our organization.

While the board
chooses the destination,
the board
relies on the expertise of the executive
director—that
would be me, your
bus driver—to find
the best route.

We hope to achieve several things. Our goal is to ensure that

- there is a strong national voice and vision for Canadian dental hygienists;
- the needs of the members are met;
- the profession continues its evolutionary process;
- Canadians value oral health as part of total wellness; and
- there is professional growth for dental hygienists.

HOW DO WE GET THERE?

The governance model chosen by the board of directors is very clear about the division of duties between the board of directors and the executive director. While the board chooses the destination, the board relies on the expertise of the executive director—that would be me, your bus driver—to find the best route.

This would be an easy job if I knew every pothole and every shortcut along the way to our destination. I don't, of course, which is why I'll say it again, "Please talk to the driver."

RULES OF THE ROAD

Like every other vehicle operator, I must follow the rules of the road. As well as stopping at all railway crossings, *always* yielding to pedestrians, and never exceeding the posted speed limit, there are other rules the board says I must follow, rules designed to allow me to be as creative and innovative as possible as I set about getting us to our destination.

If you are wondering how that can be done, it's really quite simple. Rather than telling me what to do, the board tells me what *not* to do. Everything else is fair game. These rules are called *executive limitations*.

Some are obvious; some are less so. For example, I must never

- break the law;
- treat members in an unsafe manner;
- cause conditions of work that are unfair or undignified;
- deviate materially from the board's ends (which, even if it were possible, rules out bus trips via the Caribbean); or
- fail to protect assets.

There are others, of course, but I think you get the idea.

ROAD HAZARDS

Inevitably we will run into road hazards—although I prefer to call them road challenges. Yes, they can slow us down; sometimes we may even have to stop to repair a broken fan belt. But I believe that no matter how large the challenge looms, our combined talent and pure mechanical genius will get us through the hazard—or over, or under, or around it—and put us back on the road in no time.

If you took a moment to mull it over, I'm sure you could come up with your own list of challenges. Here are a few internal and external road hazards our profession is currently facing.

External hazards

Legislation:—Dental hygiene responsibilities are defined differently in each province. Legislation that is out-of-sync makes life difficult for dental hygienists in a number of ways. Not only is it more difficult to resolve issues regarding labour mobility, it is also harder to define the scope of the profession because it changes from one province to another. It also makes it difficult to ensure that dental hygienists are reimbursed fairly for work done by third-party payers.

Tradition:—The majority of dental hygienists are employed in dental practices that involve traditional hierarchical employment relationships. Many dental hygienists with whom I've spoken describe their colleagues as family—which is great if all family members love and respect each other. Unfortunately, dental-practice families are as just as prone to dysfunction as other families.

Gender or so-called "pink issues":—Dental hygiene is a predominantly female profession. As such, it carries with it an array of socially constructed roles and relationships, personality traits, attitudes, behaviours, and values that are imbedded in society. There are also outstanding issues connected with relative power and influence.

Lone guns:—Oral health has been run in large part by entrepreneurs and so has not sought inclusion in mainstream health care. In a sense, the mouth is disconnected from the body in the health care system.

Internal hazards

Isolation:—Dental hygienists often spend more time with other members of the health care team that they do with other dental hygienists. This can result in strong ties within the team but weaker ones among dental hygienists.

Geography:—Many of Canada's dental hygienists are isolated geographically from other members of the profession.

Communications:—Trying to communicate with busy dental hygienists can be very difficult.

Research capabilities:—There are so few researchers working in the dental hygiene field that our ability to generate a large pool of knowledge is restricted. Clearly we need to enhance the profession's research capabilities.

Self-esteem and self-confidence:—Many dental hygienists do not receive the support from their colleagues that is necessary to build a sense of self-esteem and self-confidence. Examples are those who introduce themselves as someone else's property, e.g., "Hello, I am Diane, Dr. Smith's hygienist." Worse yet, we still hear the term "the girls in the office" far too often. We have strong leaders today but we have to ensure future leaders are nurtured so they can build the self-confidence needed to assume the mantle of leadership.

Baggage:—We don't have the resources to waste on professional politics. Dental hygienists have a strong role to play in ensuring the oral health of Canadians. We must not lose our focus.

FUEL

If only this bus ran on well-wishes and dreams...

But it doesn't, of course. In fact, it depends heavily on the support of many people, not the least of whom are our sponsors. If we don't say it enough, let me take this opportunity to thank our sponsors publicly for their hard work and generosity—the fuel that keeps this bus chugging along. At the risk of sounding like an Oscar-award recipient, I would like to thank

- 3M ESPE for its support of the web site as well as the President's Reception at the annual conference;
- Trident for supporting the CDHA web site and the annual conference social gala;
- Crest for sponsoring the keynote speakers at our annual conference and for its ongoing interest in yet-to-be-defined new sponsorships; and
- Oral-B for its generous support over the years. Not only does Oral-B ensure we have delegate bags at the conference each year, but the company also sponsors awards and has supported National Dental Hygiene Week for what seems like thousands of years.

MAPPING THE TRIP

To say we want to "meet the needs of members" is easy enough. But what are those needs? In the spring of 2001, we set out on an internal bus tour to find out. An internal audit identified five areas in need of attention. The audit concluded that we must

- make the best use of the combined resources of the national and provincial associations;
- improve national dental hygiene awareness;
- build on the knowledge base of our members;
- capitalize on the Internet as a communications vehicle with the public and within the profession; and
- continue to build partnerships with industry.

I am pleased to say that work is underway on all fronts.

UNDER CONSTRUCTION

Road construction, somewhat related to road hazards, can cause delays. The difference, however, is that with road construction, short-term pain usually paves the way for long-term gain. Here are just three examples of the work that is being done to improve the trip for future travellers:

- The CDHA staff and work processes are being reorganized to increase efficiency.
- A digital partnership is being developed with Marketlink Solutions to address some of the internal audit areas.
- The development of an internal technology plan, which will include changing databases, is also underway.

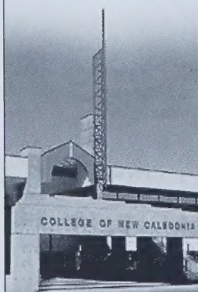
CHECKING THE ODOMETER

They say that to be a good driver—which I am, of course—you have to keep your eyes moving all the time because things can change rapidly. You must be scanning the horizon constantly, checking the rearview mirror regularly, and taking the time to look at traffic on both sides of your vehicle.

But every once in a while, it is also important to stop and take stock of what's going on—to check the odometer, so to speak—to find out how far you've come and to determine how far you still have to go. It's a time to ask questions, some as basic as, "Are we on the right road?"



COLLEGE OF NEW
CALEDONIA
PRINCE GEORGE



Dental Hygiene Instructor

The College of New Caledonia, in Prince George, British Columbia, is a comprehensive community college with a large, modern complex and four satellite campuses serving the needs of a regional population of 200,000.

We invite applications for a full time, probationary, Dental Hygiene Instructor beginning August 2002, responsible for didactic, pre-clinical, clinical and lab instruction.

Requirements: Bachelor's degree in a related field with preference given to candidates with relevant Master's preparation. You must be a graduate from an accredited Dental Hygiene program; be eligible for licensure with CDHBC; have clinical experience and be legally entitled to work in Canada. Post secondary teaching is considered an asset.

Salary: Commensurate with qualifications and relevant experience, and an excellent fringe benefit package.

To Apply: Forward your resume to the Human Resources Department quoting the **job title** and **reference # 01-129FP**.

Closing date: Friday March 15, 2002 at 3:00 pm.

Prince George, a city of 80,000, is the focal point of commercial, medical, and educational services for central BC. The City offers affordable housing, well-developed parks and recreational areas, as well as a wide variety of cultural and social amenities.

The College thanks all candidates in advance but only those selected for an interview will be contacted.

College of New Caledonia 3330-22nd Avenue, Prince George, BC V2N 1P8
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There will always be road hazards, of course, but I believe that if we keep our eyes on the road, we can meet any challenge.

What follows is a list of some of the things we are doing and some of the issues we are tackling right now. (If you get me started on any one of them, I could talk for hours.) If you would like more information, please contact us at the CDHA office or visit our web site at <www.cdha.ca>.

- Reimbursement of dental hygienists
 - ensuring individual insurance companies pay for services rendered (our strategies include working closely with the Canadian Life and Health Insurance Association as well as employer groups including Treasury Board)
 - Electronic Claims Submissions (CDAnet, Canadian Alliance of Professional Associations and the use of dental hygiene codes)
- Advocacy
 - HEAL (Health Action Lobby Member)
 - federal government pre-budget submission and presentation
 - Romanow Commission submission
 - health policy communications specialist has been hired
 - commissioning of the *Study on the Political Economy of Dental Hygiene*, which is to be completed in December
 - working on tax credits for continuing education
- Labour market
 - supporting provincial self-regulation efforts
 - *Dental Hygiene Profile 2001* to be completed in December
 - planning of oral health sector study with HRDC
 - oral health representative to the Health Human Resources Communications Secretariat
- Communications
 - building a database of member expertise that is a vehicle for sharing the expertise among yourselves
 - launching a new public web site in October with re-launch of member site in the new year
 - first national television commercial aired on CBC and RDI, beginning in September
 - National Dental Hygiene Campaign Planning Kit on web site
 - Oral-B/CDHA National Dental Hygiene Week Contest for individuals, clinics, and schools
 - *Probe* and *Probe Scientific* journals
 - 3M ESPE 50th Anniversary Calendar

- new trade show exhibit
- Promoting the baccalaureate degree as entry to practice in 2005
- Development of the Canadian Foundation for Dental Hygiene Research
- Participation in international projects through the International Federation of Dental Hygiene
- Hosting annual conferences
- Building partnerships with sponsors to support our members in serving their clients
- Review of the *Definition and Scope of Practice*
- Development of the Awards Review Committee
- Ensuring the Code of Ethics is appropriate for the new millennium

33

THE ENGINE

But what's driving this bus? What is propelling it forward down that wide-open road to Nirvana? Would it be that Detroit Diesel Series 60 500-hp engine with the Allison six-speed HD4060 World transmission running on 315/80R22.5J 16-ply PXZ4-1 Michelin steel-cord radials?

No; actually, it would be the CDHA volunteers, members, and staff. But the Detroit Diesel was a good guess.

If it were not for the thousands of people involved in this organization, we would all be left standing, stranded at the side of the road—a scene right out of a Roger Corman, B-movie classic.

Volunteers do everything from sitting on the board and chairing task forces to editing *Probe* and selecting award recipients. Members are out there representing the profession every day; and the staff, well, they tune the engine, tighten the belts, and change the oil every 5,000 kilometres.

THE PASSENGERS

And who is that sitting back there in air-conditioned comfort, watching the Canadian landscape roll by?

That would be the rest of Canada, our friends and neighbours, some of whom can afford dental care and some of whom can't. Our job is to ensure a safe and healthy trip for all of them, a journey marked by caring, leadership, and dedication to the principle that all Canadians should have access to quality preventive oral health services provided by dental hygienists.

ANOTHER DAY COMES TO A CLOSE

As the sun sets on the western horizon, we've put a few more miles behind us. Like most days, it's been a day filled partly with challenges but mostly with success. Time for this driver to shut the bus down, bleed the air brakes, shut out the lights, lock the doors, and block the tires. Oh, and make arrangements for an oil change. Must keep that engine humming! 

Taped Highlights

CDHA 12th Annual Professional Conference
Mississauga, Ontario
September 21-23, 2001



2001
DENTISTRY
genesis



Organizers have made arrangements for audio recording of all major sessions. If you missed something or want to share some important topics with colleagues, use this as an order form. 60 or 90 minute cassettes at **\$10.00** each.

Full Set: \$200 (22 tapes), **Individual Tapes: \$10** each
Please indicate quantity wanted.

- ___ A. **KEYNOTE:** I Entrepreneur - Secret Recipes for a Disordered World: **Ellie Rubin**
- ___ B. **KEYNOTE:** Use the Good Dishes - Finding Joy in Everyday Life: **Dr. Elaine Dembe**

CLINICAL PRACTICE

- ___ 1. Why Do We Give Antibiotics to People with Heart Murmurs and Other Lies: **Dr. Andrew Morris**, MD, MSc (Epid.) The arguments for and against offering antibiotics, guidelines recommended by governing bodies, what practices the most recent scientific evidence supports / refutes.
- ___ 2. Oral Health Care for Special Needs Patients: **Dr. Mary Ellen Heath**, DDS
- ___ 3. Oral Care for Cancer Patients: **Dr. Bob Wood**, DDS
- ___ 4. Traumatic Dental Injuries in Children and Adolescents: **Dr. Ed Barrett**
- ___ 5. Forensic Dentistry: Swissair 111 Investigation: **Master Corporal Martin Raymond**, CDA, NDAEB-Victims identification process; Dental-specific evidence; five case studies
- ___ 6. Theft by Trickery: Fraudulent and Abusive Dental Billing Practices: **Dr. Rick Beyers**, DDS and **Mary Lou Oakes**, Clarica
- ___ 7. Dental Office Medical Emergencies: **Mike Nemeth**, Emergency Skills Training, Toronto Fire Dept.
- ___ 8. Alzheimer Disease and Related Dementias: Coping Strategies to Assist Professionally & Personally: **Cheryl Graham**, Education Coordinator, Alzheimers Society of Peel
- ___ 9. Fluoride Needs Assessment: Taking the Mystery Out of Adult Fluoride Therapy: **Amy Hazlewood**, RDH, BS
- ___ 10. The Latest Research and Developments in Preventive Dentistry: **Dr. Hardy Limeback**, PhD, DDS Includes digital radiography, the latest word on water fluoridation, new toothpaste and chewing gum formulations, laser therapy, genetically engineered anti-caries vaccines and replacement therapies. 10a. and 10b. = \$16.

- ___ 11. Periodontal Medicine: **Salme Lavigne**, RDH, MS
- ___ 12. The Natural Approach to Menopause and PMS: **Dr. Alvin Pettie**, MD

GENERAL HEALTH and WELLNESS

- ___ 13. When Smiles Turn to Wrinkles: **Dr. Gunter Born**, MD, FRCSC
- ___ 14. Dietary Carbohydrates and Health: How Much and What Kind?: **Dr. Thomas Wolever**, PhD. A review of the role of dietary carbohydrate in obesity, insulin resistance, and heart disease.
- ___ 15. Stop "Shoulding" on Yourself: Striking a Balance in Your Life: **Leslie Born**, BA, MSc, PhD candidate
- ___ 17. Nutrition Mythology Since the Beginning of Time: **Helen Bishop MacDonald**, Dairy Bureau
- ___ 18. Heart and Stroke Foundation, Women and Stress - The Ultimate Balancing Act. Gender differences, management techniques, risk factors, and signs of heart disease and stroke.

EDUCATION / REGULATION / DH INITIATIVES / COMMUNITY CONNECTIONS

- ___ 19. CDHA Education Task Force: Baccalaureate Education for the Dental Hygiene Profession
- ___ 21a. **DH Initiatives:** Relating Research to Practice (**Martha Clarke**, RDH, BA); Restorative Dentistry (**Debbie Daniels**, RDH); Dental Hygiene Practice - Working in Industry (**Angela Best**)
- ___ 21b. Networking to Improve Quality of Oral Care (**T. Krievins**, RDH, BScD, and **S. Windsor**, RDH); You Are Never Too Old to Smile (**Kathleen Adams**, RDH); Introduction to Swallowing Disorders (**Pat Spencer**) (partial: 20 min.)
- ___ 22. **Community Connections:** ALS (**Waites**); Diabetes and Oral Health (**Cashman**); Oral Health Teaching Kits (**McIntosh & Morrison**); DH TV aid (**Leck**); DH Mouthguard Clinic (**Allan**); Contract Development (**Brodie and Fine**); Dental Management in Acute Health Care facilities (**Clift**)

Presentations not recorded: Rita Bauer, Lynn Cappel, Leanne Carlson-Mann, Bonnie Craig, Fran Richardson, Dr. Laura Tam, Joyce Weinman, Dale Scanlan, Carolyn Simpson

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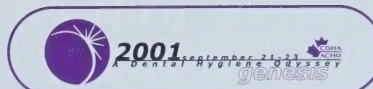
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Abstracts Presented at the 2001 CDHA Conference, Mississauga, Ontario



CDHA CONFERENCE ABSTRACTS

GLOBAL HYGIENISTS PROGRAM

ANDREA ABBOTT, RDH

The Global Hygienists Program is dedicated to the promotion and facilitation of international career opportunities for the dental hygienist. It distributes information on foreign employment and volunteer projects as well as creating a community environment. Information about foreign employment has contact information from member nations of the International Federation of Dental Hygiene. When possible, we incorporate additional information including salary, duties, qualifications, cost of living, general history, and demographics of a particular country. Placement services by the Global Hygienists or referrals to agencies are available for individuals interested in pursuing employment opportunities. Lists of volunteer projects applicable to the dental hygienist are provided on request. The list is composed of contact names and addresses, regions served, and a general summary of the project. A membership directory and quarterly newsletter are provided to promote the sharing of information and ideas. The newsletter contains foreign employment stories, fieldwork reports, and tips on overseas living and travelling.

The value of this program is the availability of information to dental hygienists intrigued with international ideas and experiences. The larger the community, the greater the exchange of knowledge and potential for growth of overseas opportunities for the dental hygienist.

The Global Hygienist Community Program has been operational for the past four months. Evaluation is based on the number of new members. Projected this year are 200 members from around the world.

CDHA CONFERENCE ABSTRACTS

RELATIONSHIP BETWEEN PARENTAL BELIEFS AND THE HABITS OF CHILDREN

FRANCE LAVOIE, HD, BA, MA(Ed), and ROLANDE DESLANDES, PhD

Purpose: To examine the correlation between the two variables, especially thumb-sucking, which can lead to dental, phonation, aesthetic, and social problems. **Method:** Using the Bronfenbrenner model (1881, 1984, 1994), this exploratory descriptive study combined quantitative approaches in the preparation and validation of a questionnaire (alpha coefficient = 0.67) administered to 449 parents of kindergarten children in Quebec. **Results:** There was significant correlation between parental beliefs and the thumb-sucking behaviour of their children. Parents of bottle-fed children believed that thumb-sucking is a habit, while parents of breastfed children considered it a basic need. Also, parents of kindergarten children exhibiting thumb-sucking behaviour believed that thumb-sucking was a basic and comforting need. A profile was established of correlates for "nutritive sucking" (NS) (breast, bottle) and "non-nutritive sucking" (NNS) (soother, thumb, object). On average, breastfeeding ended after 5 months and the bottle feeding after 13 months. Soothers were no longer used after 8 months, the thumb and objects after 32 months. Nine per cent of kindergarten children continued thumb-sucking at home, daycare, school, or in public places. **Conclusion:** This study of parental beliefs and the habits of children could be adapted to other territories and also to variables such as brushing teeth.

CDHA CONFERENCE ABSTRACTS

USING EDUCATIONAL RESEARCH TO SUPPORT ADMINISTRATIVE CHANGE: A STUDY OF THE LEARNING CLIMATE WITHIN DENTAL HYGIENE CLINICS AND LABORATORIES

MARGARET WILSON, DipDH, MEd

The atmosphere for learning within organizations can directly affect the performance of those within the organization. This study investigated the overall climate for learning, as perceived by dental hygiene students within

their clinics and laboratories, during a period of administrative downsizing and curriculum reform at the University of Alberta's Department of Dentistry. Two dental hygiene classes were surveyed annually for four consecutive years (1997-2000). The survey tool asked students to rate 10 different dimensions of their learning environment; these included such things as the physical facility, learning resources available, and value placed upon ideas. Results indicated that, although students were encouraged to learn and were provided with practical help during their clinical experiences, they rated the overall climate for learning, clinical standards, and communication with faculty members poorly. The results of this survey have supported administrative changes within the department and facilitated the planning of future educational experiences.

CDHA CONFERENCE ABSTRACTS

SOCIAL ISSUES ASSOCIATED WITH ORAL MALODOUR

LYNDA MCKEOWN, RDH, HBA, MA

Odours have cultural values and society uses odour as a means of defining and interacting with the world. The olfactory experience is intimate, emotionally charged, and can become value coded. The breath that connects us with the surrounding world can be valued as good or bad and can connect or disconnect us from our social environment and intimate relationships. Body image and social relations mesh, interact, and affect each other. How we experience our body is personal and private but at the same time very public. Breath odour is public as it occurs within a social and cultural context and personal as it affects body image.

This retrospective qualitative study reviews 55 client records to determine why the clients attended a clinic specializing in treating oral malodour. The study focused on the psychosocial history. Personal, work, and social relations led clients to seek treatment. Their doctor or dentist had treated medical and dental conditions but had not resolved the breath problem. When individuals perceive a constant problem with bad breath, their body image and self-confidence are diminished. They use defence techniques and may avoid social situations. Mouth odour, real or perceived, requires professional treatment.

CDHA CONFERENCE ABSTRACTS

TRAINING AND UTILIZATION OF KUWAITI DENTAL HYGIENISTS: RESULTS OF A SURVEY

JASSEM AL ANSARI and GEORGE M. GILLESPIE. College of Health Sciences, PAAET, Kuwait

The College of Health Sciences, Kuwait, commenced the training of dental hygienists in 1989. From 1991-2001, 79 hygienists were trained in Kuwait in the 26-month program. **Purpose:** This study assessed the extent to which practising hygienists were using the knowledge gained in training; it also identified expressed future needs. **Method:** A survey questionnaire was distributed to 65 dental hygienists in the private and public health sectors in Kuwait. A 100% cent response rate was achieved. **Results:** Of the respondents, 80% were Kuwaiti with national diplomas. All hygienists indicated application of sealants, fluorides, and dental education. Some 90% of respondents had been trained in the functions indicated but only 66% were currently applying that knowledge. X-rays, root planing, oral hygiene indices, and combined manual and ultrasonic scaling were the taught skills that were most often not applied. Of the respondents, 38% reported working with assistants. Respect from clients was reported by 85% of respondents; respect from dentists was reported by 69%. The most expressed needs were for continuing education, dental assistants, and access to post-diploma education. **Conclusions:** Changing technology highlights the need for continuing education programs for hygienists and for access to post-diploma education. Public programs and private practice should be advised of the capabilities acquired in training, and subsequent practice should fully utilize the skills of the trained hygienists. Promotion of the role and value of the dental hygienist should be made by the dental profession.

"ASSOCIATION MEMBERSHIP" (continued from page 3)

connections let you know what or who is available and can give you an edge in a competitive environment. If you want to initiate something within the dental hygiene community, to test the waters in an alternative practice setting, or to implement an idea within your practice, contacting someone who has already done it can save you time, money, and frustration. You are likely to find a colleague who can offer advice, mentor, or make introductions to open the door to opportunities or individuals who can help you. And you can do the same for others—in fact, reciprocity is an integral part of social capital.

Social capital also works at the association level. In Alberta, the dental hygiene community is sharing its strategies, challenges, and successes in attaining the baccalaureate degree program in dental hygiene. This can help other provincial associations and educational institutions move forward on the CDHA position statement on baccalaureate education as the entry to practice for students entering programs in 2005. I remember we did this in Saskatoon in June 1994 at a provincial presidents' meeting hosted by CDHA: we shared what worked (and what didn't) with the provinces working towards self-governance. This mutual assistance continues today, and hopefully the shared knowledge and contacts will

help the final five provinces attain self-regulating status for their registrants. This in turn will benefit us all in the dental hygiene profession.

At last September's conference in Mississauga, I witnessed a "live" example of social capital. One dental hygienist introduced two dental hygienists to each other; one was able to supply the information on distance education that the other was seeking. The resulting animated discussion was social capital at work, brought about by belonging to your professional organization.

Social capital connections can be made in a number of ways: within your practice setting, at local meetings, professional development seminars, provincial, national and even international conferences. In today's technological age, it is something that can and will occur via the Internet, greatly facilitated by CDHA.

Membership in your professional association helps you stay connected and this can benefit you as an individual, the profession of dental hygiene, and indeed society as a whole. Social capital can open doors and minds. Congratulations on a wise and valuable investment that has tremendous growth potential in your personal and professional life.

Barbara Gibb, RDH, <president@cdha.ca> 

"ADHÉRER À UNE ASSOCIATION" (suite de la page 3)

disposer d'énoncés de position s'appuyant sur la recherche actuelle. Elle vous donne l'occasion de contribuer à la crédibilité de la profession et permet au public de bénéficier, pour sa santé et son bien-être, d'une information sûre, fondée sur des données probantes dans le domaine de l'hygiène dentaire.

Les réseaux associés au capital social peuvent amener un changement substantiel dans le secteur de l'emploi. Que vous soyez à la recherche d'emploi ou d'un remplacement temporaire, ces connexions vous permettent de savoir qui ou quoi est disponible, et peuvent vous donner un avantage dans un environnement concurrentiel. Que vous vouliez lancer quelque chose dans la collectivité de l'hygiène dentaire, sonder le terrain dans un milieu de pratique alternative ou mettre en œuvre une idée au sein de votre pratique, vous pouvez épargner temps, argent et frustrations en contactant quelqu'un qui l'a déjà fait. Vous trouverez probablement un collègue en mesure de vous offrir des conseils, vous servir de mentor ou vous présenter à des gens qui peuvent vous ouvrir la porte à des personnes susceptibles de vous aider ou susciter des occasions d'affaires. Et vous pouvez faire la même chose pour d'autres; en fait, la réciprocité est une partie intégrale du capital social.

Le capital social fonctionne également au niveau de l'Association. En Alberta, la collectivité de l'hygiène dentaire partage ses stratégies, ses défis et ses succès propres à implanter le programme de baccalauréat en hygiène dentaire. Cela peut aider d'autres associations provinciales et d'autres institutions d'enseignements à aller de l'avant sur l'énoncé de position de l'ACHD concernant l'éducation au niveau du baccalauréat comme porte d'entrée dans la pratique pour les étudiant(e)s qui accèderont aux programmes en 2005. Je me souviens que nous l'avons fait à

Saskatoon, en juin 1994, lors d'une réunion des présidentes provinciales tenue sous les auspices de l'ACHD : nous avons échangé sur ce qui fonctionne (et ce qui ne fonctionne pas) avec les provinces qui travaillent à atteindre le statut d'auto-réglementation. Cette assistance mutuelle se poursuit aujourd'hui; et il est à souhaiter que le partage de connaissances et de contacts aidera les cinq provinces qui restent à atteindre le statut d'auto-réglementation pour leurs membres. Ce résultat sera, à son tour, bénéfique pour tous les membres de la profession de l'hygiène dentaire.

Lors de la conférence de septembre dernier, à Mississauga, j'ai été témoin d'un exemple « en direct » de capital social. Une hygiéniste dentaire a présenté deux autres hygiénistes dentaires l'une à l'autre; l'une d'elles était en mesure de donner, sur l'éducation à distance, des renseignements que l'autre cherchait à obtenir. La discussion animée qui suivit représentait du capital social à l'œuvre, suscité par l'appartenance à votre organisme professionnel.

Les connexions de capital social peuvent se faire de nombreuses façons : au sein de votre milieu de pratique, aux réunions locales, aux séminaires de développement professionnel, aux conférences provinciales, nationales et même internationales. À notre ère technologique, c'est quelque chose qui peut se produire et qui se produira grâce à Internet, grandement facilité par l'ACHD.

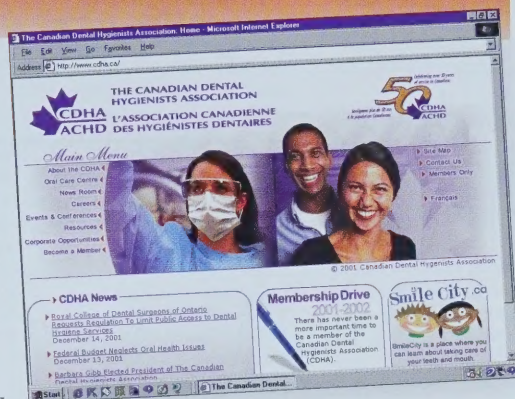
L'adhésion à votre association provinciale vous aide à rester branchée et peut bénéficier à vous-même en tant qu'individu, à la profession de l'hygiène dentaire, et, de fait, à l'ensemble de la société. Le capital social peut ouvrir les portes et les esprits. Félicitations pour un investissement sage et précieux qui offre un immense potentiel de croissance dans votre vie personnelle et professionnelle.

Barbara Gibb, HDA, <president@cdha.ca> 

PROBING THE NET

by Karen Wolf, DipDH

Winter is here and we find ourselves indoors quite a bit. So while you are tucked in cozily, check out our new CDHA web site at <www.cdha.ca>.



The public side of the site is new and more professional-looking with a side and bottom directory for easy movement within the site, a great new kids section, and bilingualism (although some sections are still under construction at present/la version française du site web de l'ACHD sera bientôt relancée). Intrigued?

Here one can learn **About the CDHA**: its history, beliefs, why dental hygienists are important, what a dental hygienist does, and how to find a dental hygienist. The **Oral Care Centre** touches on subjects such as Smoking, Oral Health Matters for You and Your Baby, and Oral Health Matters from head to toe. Check out the **News Room** to read current and past news releases, position statements, and reports.

The **Careers** page provides "a good understanding of where dental hygienists work, what standards and guidelines the profession must follow, and what qualifications you must have in order to become a dental hygienist." Encourage anyone interested in becoming a RDH to visit this site for a comprehensive evaluation of the profession and the programs available across Canada. From here, you can learn about **Events and Conferences** as well as **Corporate Opportunities**.

One of the main goals of CDHA is to be "the gateway for credible information on dental hygiene in Canada...to help members stay abreast of hot topics in dental hygiene and disseminate this information to their clients." To facilitate this, our web site has provided a **Resources** section for public access. There is also an easy way to **Become a Member**. The **Contact Us** section allows communication with the office and staff.

Finally, CDHA wanted a fun and interactive way for children to learn more about oral health. **Smile City** contains activity sheets, games, and tips to help teach your child or students about the importance of dental hygiene. This wonderful section of the site has a wide variety of ways to engage children of any age in oral health. From the **Tooth Invaders** game, to the ever-changing **Neat-O Fact!**, this site will be sure to please. And, within this children's site, two sections ("tooth tips" and "activities") are aussi en français.

Our **Members Only** section is currently being overhauled and will be launched anew in the upcoming year. Here you will find: What's New; Probe On-line; Probing the Net; Financial Incentives; Employment Opportunities; CDHIP (Canadian Dental Hygiene Insurance Plan); Resource Centre; Membership Services; and National Dental Hygiene Week (NDHW).

So now that I have piqued your interest, check out your very own CDHA web site at <www.cdha.ca>.

Enjoy and be proud!

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www.dentaljobs.ca provides a free service that connects dentists, dental hygienists, and other dental personnel with long- and short-term jobs. A simple on-line form allows you to list your personal availability, and an employer can list a vacancy for any office position.

www.dental-locums.com provides a free service that connects practices and institutions with dentists and dental hygienists for both long- and short-term jobs. You can list your personal availability (or a job vacancy) by using a simple on-line form or by faxing your details to (604) 922-8407.

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MARCH/APRIL 2002 VOL. 36 NO. 2

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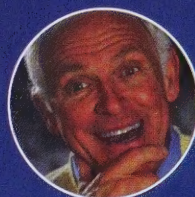


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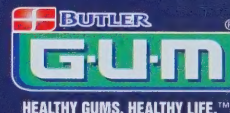
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PRESIDENT'S MESSAGE LE MESSAGE DE LA PRÉSIDENTE

Persons of Influence

by Barbara Gibb, RDH

It has been said that if your life connects in any way with other people's lives, you are an influencer. Your honesty and integrity—adherence to moral and ethical principles—will determine whether this influence is positive or negative. As dental hygienists, we are in a prime position to be a positive influence in the lives of our clients. John C. Maxwell, a writer on leadership, stated that "to make a significant impact on the lives of others, it is best done up close where you can encourage and communicate on an emotional level." Given the physical working environment of dental hygienists in the many practice areas—clinically in private and alternate practice settings, in public health, education, research, consulting, and industry—we do work closely with others, frequently one on one. We are in an excellent position to be a positive influencer.

As oral health care providers, dental hygienists have an impact on others' health and well-being. When clients trust us and feel that we care about and treat them as individuals, they trust our advice and recommendations about treatment or homecare options, or about which health products they should use. Recognizing and encouraging clients' health care efforts helps establish our caring and professional integrity in their minds. This boosts our level of influence and is more likely to increase compliance, thus contributing to the client's health.

The Ontario Dental Hygienists Association estimated recently that its 5,600 members treat and talk to more than five million people. Extrapolating those numbers to include all members in CDHA, it is obvious that dental hygienists are in a position to influence not only the health and well-being of millions of people, but also their spending habits. Our message on health promotion and disease prevention has been sincere and consistent. Each of us must act as ambassadors for the profession as well as advocates for clients and for those segments of society that stand to benefit from the services of a dental hygienist.



As dental hygienists,
we are in a prime
position to be a
positive influence
in the lives of our
clients.

PERSONS OF INFLUENCE... continued on page 54

Des personnes d'influence

par Barbara Gibb, RDH

On a dit que, si votre vie touche de quelque façon celles d'autres personnes, vous êtes une personne d'influence. Votre honnêteté et votre intégrité, – respect des principes moraux et éthiques – détermineront dans quel sens, positif ou négatif, cette influence se fera sentir. En tant qu'hygiénistes dentaires, nous sommes dans une position privilégiée pour exercer une influence positive sur la vie de nos clients. John C. Maxwell, auteur de textes sur le leadership, a écrit que « pour avoir un impact significatif sur la vie d'autres personnes, il est

mieux d'agir de près, parce que c'est là où vous pouvez le mieux encourager et communiquer au niveau émotionnel ». Étant donné le milieu de travail physique comme hygiénistes dentaires dans nos nombreux domaines de pratique – en clinique privée et dans des milieux alternatifs, en santé publique, dans l'enseignement, dans la recherche, la consultation et l'industrie – nous travaillons en étroite relation avec d'autres, fréquemment dans des rapports personnels directs. Nous sommes en une excellente position pour être une personne qui exerce une influence positive.

En tant que dispensateurs de soins de santé, les hygiénistes dentaires influent sur la santé et le bien-être d'autres personnes. Lorsque que les clients nous font confiance et qu'ils sentent que nous nous occupons d'eux en les traitant comme des personnes, ils ont confiance en nos avis et recommandations concernant les options de traitement et de soins à domicile les produits de santé qu'ils devraient utiliser. Reconnaître et encourager les efforts des clients en matière de soins de santé aide à établir dans leur esprit notre intégrité de soignante et de professionnelle. Cette attitude rehausse notre influence et devrait augmenter le respect des consignes de traitement, contribuant ainsi à la santé du client. L'Association des hygiénistes dentaires de l'Ontario a estimé récemment

que ses 5 600 membres traitent et sont en contact avec plus de cinq millions de personnes. En faisant une extrapolation de ces chiffres à tous les membres de l'ACHD, il est évident que les hygiénistes dentaires sont en position d'influencer non seulement la santé et le bien-être de millions de

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DES PERSONNES D'INFLUENCE... suite à la page 54

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EXECUTIVE DIRECTOR'S MESSAGE MESSAGE DE LA DIRECTRICE GÉNÉRALE

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La danse professionnelle
by Susan A. Ziebarth, CDHA, Executive Director

NEWS

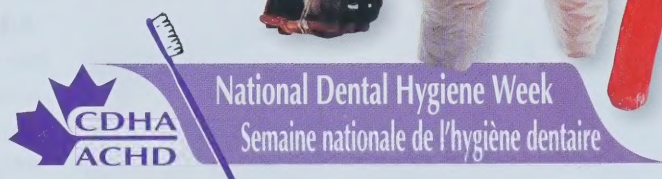
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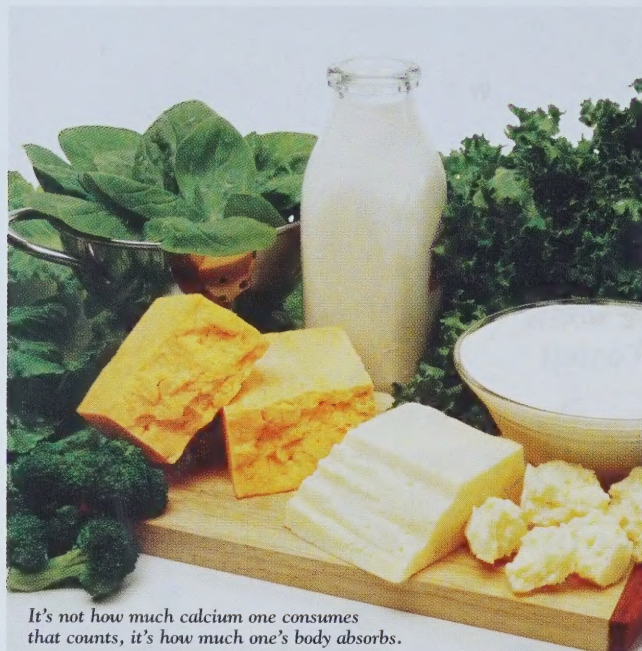


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Helen Bishop MacDonald, RD, MSc, FDC
Director, Nutrition, Dairy Farmers of Canada

BANKING ON CALCIUM



It's not how much calcium one consumes that counts, it's how much one's body absorbs.

When it comes to calcium, you can bank on at least two things: One, you needn't worry about getting too much from food (calcium supplements are another story) and, two, it's fairly easy finding foods with lots of it. Sounds like maintaining healthy teeth and bones should be a snap. Unfortunately, life is rarely that simple. Although calcium may be found in foods other than milk products, many factors affect the body's ability to use it. For example, substances like oxalate and phytate found in many calcium-containing plant foods are known to inhibit the body's ability to absorb calcium.^{1,2} While greens like spinach and Swiss chard do contain calcium, their oxalate content renders their calcium largely unavailable to the human body. Phytate, found in bran and most cereals and seeds, is problematic when consumed to excess in a diet that avoids dairy products. Of course, calcium-fortified soy beverages are gaining in

popularity, but their calcium has been shown to be less well absorbed than that of cow's milk³—possibly due to their relatively high oxalate and phytate contents.⁴

Other factors also affect calcium bioavailability. A recent study of 535 women measured the impact on calcium absorption of a variety of dietary and lifestyle factors. It found that the most significant factors affecting calcium absorption were dietary fat and fibre and, to a lesser extent, serum vitamin D and alcohol consumption.⁵ Women with the lowest fat/fibre ratio had a 19% lower calcium absorption rate than those with the highest ratio.⁵ This may be due to intestinal transit time. Fibre speeds up transit time while fat slows it down, so low fat/high fibre diets may prevent food from staying in the intestine long enough for the body to absorb sufficient calcium and other nutrients.⁵ Vitamin D also plays a well-established role in the intestinal absorption of calcium,^{1,5} and its major food source is milk.

Food	Serving size	Calcium (mg)	% amount absorbed	Absorbable ca/serving (mg)	Servings to replace milk
Milk	250 mL	315	32.1	101.1	—
Red kidney beans	250 mL	52	17	8.8	11.5
Soy beverage, unfortified	250 mL	10	31	3.1	32.5
Soy beverage, fortified	250 mL	315	24.1	75.9	1.3
Tofu, calcium set	100 g	150	31	46.5	2
Broccoli	125 mL	38	52.6	20	5
Spinach	125 mL	129	5.1	6.6	15.3
Almonds	125 mL	200	21.2	42.4	2.3

References: 1. Guéguen L et al. 2000. The bioavailability of dietary calcium. *J Am Coll Nutr* 19:119S-136S. 2. Heaney RP et al. 1988. Calcium absorbability from spinach. *Am J Clin Nutr* 47:707-709. 3. Heaney RP et al. 2000. Bioavailability of the calcium in fortified soy imitation milk, with some observations on method. *Am J Clin Nutr* 71:1166-1169. 4. Massey LK et al. 2001. Oxalate content of soybean seeds (*glycine max*: Leguminosae), soyfoods, and other edible legumes. *J Agric Food Chem* 49:4262-4266. 5. Wolf RL et al. 2000. Factors associated with calcium absorption efficiency in pre- and perimenopausal women. *Am J Clin Nutr* 72:466-471.



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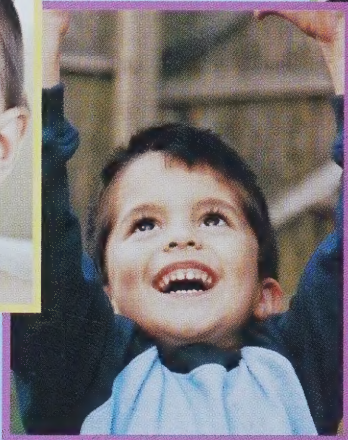
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There are a number of federal and provincial bodies contributing to the debate on the Canadian health care system and raising many challenging questions. Is Medicare really on its deathbed? Is it time for two-tier health care?

On February 6, 2002, the Federal Commission on the Future of Health Care in Canada (www.healthcarecommission.ca) released an interim report that serves as a framework for a dialogue on the health care system. The Commission's goal is to reach a consensus on health care issues and it approaches the debate with an open mind. This interim report states that Canadians favour a universal, publicly funded health care system and proposes four options to control Medicare expenditures. These options include higher taxes; health care premiums, co-payments, or user fees; more private services; and reforms to increase efficiencies.

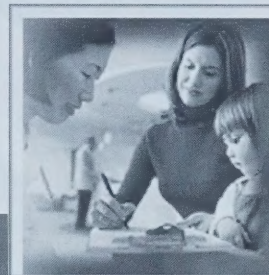
The Federal Commission will complete its mandate in November 2002. However, many provinces are choosing to pre-empt the Commission and carry out their own reviews. They are issuing their own provincial health care reports, and some are beginning to implement report recommendations. The danger with this independent, uncoordinated decision-making is that it may compromise the national Medicare system based on the five principles enshrined in the Canadian Health Care Act: public administration, comprehensiveness, universality, portability, and accessibility.

A number of provincial premiers, including British Columbia's Gordon Campbell and Ontario's Mike Harris, agree with the Alberta report conclusion that the health care system is unsustainable. However, Saskatchewan Premier Lorne Calbert does not concur, asserting that the system is sustainable without radical efforts to raise outside revenue. Roy Romanow, chairperson of the Federal Commission, provides support for Saskatchewan's position by pointing out that public health spending comprises about 9 per cent of the gross national product, down from 10 per cent in the 1990s.

The Senate is also involved in the health care debate at the national level. The Honourable Michael J.L. Kirby is chairperson of the Standing Senate Committee on Social Affairs, Science and Technology, authorized by the Senate to examine and report on the state of the health care system in Canada. To date, the Committee has produced three reports. *Volume One: The Story So Far* focuses on historical health issues, the federal government's objectives and future role, and health care spending. *Volume Two: Current Trends and Future Challenges* examines the factors that can affect the affordability and sustainability of Medicare. *Volume Three: Health Care Systems in Other Countries* studies health care in

The Health Care Debate

SHAPE THE FUTURE OF HEALTH CARE



The Canadian Dental Hygienists Association, as part of its work advancing the dental hygiene profession and contributing to the health and well-being of the public, submitted a brief to the Senate Committee entitled *Dental Hygiene Care in Canada*. It focuses on unmet oral health care needs, financing health care, oral health human resources, research, and integrated health care. You can view this brief on the CDHA web site in the "What's New" section at www.cdha.ca/l_cdha/access/whats_new/index.asp.

Germany, The Netherlands, Sweden, the United Kingdom, and the United States, as well as the operation of Medical Savings Accounts in several countries. The information from these first two reports was used in the *Issues and Options* paper (Volume Four) that formed the basis for a series of public consultations across Canada. The Senate Committee is currently working on its fifth volume, to be released in March 2002, that will contain recommendations based on the Committee's findings.

The Canadian Dental Hygienists Association, as part of its work advancing the dental hygiene profession and contributing to the health and well-being of the public, submitted a brief to the Senate Committee entitled *Dental Hygiene Care in Canada*. It focuses on unmet oral health care needs, financing health care, oral health human resources, research, and integrated health care. You can view this brief on the CDHA web site in the "What's New" section at www.cdha.ca/l_cdha/access/whats_new/index.asp.

Following the Romanow and Kirby reports, the federal government will have to make some tough choices and develop sound public policy based on these reports. Don't miss your opportunity to provide input into these debates. Consider making a presentation to the Romanow Commission during their public consultations or contacting your Member of Parliament regarding dental hygiene issues. If we all help to raise awareness of these issues, dental hygiene issues will not be left out of this important debate. 

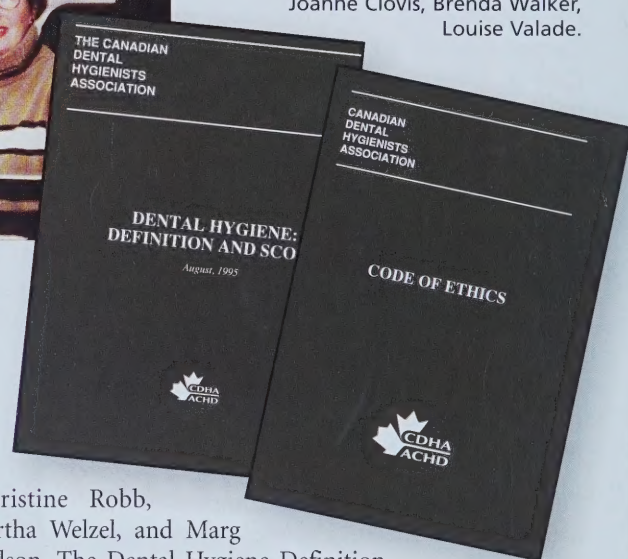


Members attending the Definition, Scope, and Practice Standards Task Force Meeting.
(Top row, left to right) Judy Lux, Audrey Penner, Sheryl Feller, Paula McAleese, Anne Comeau, Carol Yakiwchuk, Joanna Asadoorian, Anne Clift. (Bottom row, left to right) Teresa Cummins, Sandy Cobban, Joanne Clovis, Brenda Walker, Louise Valade.

Revision of CDHA Publications

The Canadian Dental Hygienists Association is in the process of revising the *Code of Ethics*, 1997, and *Dental Hygiene: Definition and Scope*, 1995. These two documents form the basis of what defines dental hygiene as a profession. The two task forces assisting in document revisions agreed that modifications should produce user-friendly, living documents that have a connection with the day-to-day work of dental hygienists. The task forces are searching for missing items in the old documents and responding to changing issues in dental hygiene practice settings. The goal is to produce flagship documents that will lead dental hygiene into the future.

Two consultants—Michael Yeo, an ethicist, and Sheryl Feller, a dental hygienist—are working with the Code of Ethics and Definition and Scope task forces, respectively. The Code of Ethics task force includes Laura MacDonald, Bess Miller, Diane Moore, Nancy Neish, Beverly Newell, Patricia Noble,



Christine Robb, Bertha Welzel, and Marg Wilson. The Dental Hygiene Definition and Scope task force includes Joanna Asadoorian, Anne Clift, Joanne Clovis, Sandy Cobban, Anne Comeau, Teresa Cummins, Paula McAleese, Audrey Penner, Louise Valade, Brenda Walker, and Carol Yakiwchuk.

The two task forces are using a similar process to revise the documents. The Code of Ethics task force started with a preliminary consultation of members in December 2001. Then, in late January and early February 2002, two very dynamic hard-working task forces came together for meetings in Ottawa to re-draft the documents. In February, input from CDHA members was obtained and several CDHA members were specifically requested to review the re-named *Dental Hygiene: Definition, Scope and Practice Standards*. The last stage of the process is to present the draft documents to the Board in March 2002.

The *Code of Ethics* provides dental hygienists with information regarding their responsibilities, expected behaviour, and professional conduct, and empowers them to practise in accordance with professional principles and standards. *Dental Hygiene: Definition, Scope and Practice Standards* will assist dental hygienists in improving their clinical standards, will guide their professional development, and will encourage change in the practice setting. This publication is also intended to inform, educate, and provide protection for the public. The document can be used as a teaching tool in educational settings and as a reasonable standard of professional practice in legal settings. Finally, both documents can be used as lobbying tools to influence changes in legislation.

We invite you to review these draft documents posted under *What's New* in the members-only section of the CDHA Web site at www.cdha.ca/l_cdha/access/whats_new/index.asp.



Group from the Code of Ethics Task Force:
(Top row, left to right) Micheal Yeo, Laura MacDonald, Bertha Welzel, Marg Wilson, Diane Moore, Beverly Newell.
Bottom Row: Left to right Patricia Noble, Judy Lux, Nancy Neish, Christine Robb, Bess Miller.

— Getting the **Good Word Out** in New Brunswick

New Brunswickers are becoming increasingly aware of not only the importance of oral hygiene, but of the people who help them maintain good oral health. The work by a team led by Heather Brown, New Brunswick's recently appointed National Dental Hygiene Week™ coordinator, was a good part of the reason why.

Overseeing NDHW™ events in Moncton, Saint John, Fredericton, and on the North Shore, Heather was kept busy with events that touched the lives of both the young and the young at heart. Here is an overview of some of the activities held in New Brunswick during NDHW™:

Moncton

- Following an interview on CBC Radio with Kathleen Trites, representative of the New Brunswick Dental Hygienists Association on the national board, on the subject of self-regulation within the dental hygiene profession, dental hygienists made the news every half hour all morning.
- CBC Radio, from its studios in Halifax, paid tribute to dental hygienists with a short radio spot followed by the Nat "King" Cole song "Smile."
- Through the generosity of dental offices and dental-product companies in the area, toothbrushes and other products were donated to shelters, hospital pediatric wards, special-care homes, and soup kitchens.

Trudy McAvity giving toothbrush to blood donor.



- An article marking the 50th anniversary of dental hygiene in Canada was submitted to the Times and Transcript.
- In honour of Lise Landry-Gallagher's long-time support of and contribution to the profession, Anne Comeau and Mary Pelletier (the former CDHA president and current co-chair of the 2002 conference in Moncton) served Lise lunch at her home.
- A continuing education day, entitled "The Dental Hygienist's Role in the detection and management of oral cancer," was attended by 67 registrants.

Saint John

- Area hygienists participated in a blood donor clinic, working with the Canadian Blood Services and Stirlings Apples. Blood donors received toothbrushes for their oral health and apples for their overall health.
- Trudy McAvity made announcements promoting NDHW™ on local radio stations.

North Shore

- Drawing contests were held in Restigouche, Chaleur, and Acadian Peninsula with each of 13 winners taking home \$40 in prizes. Winners' names were printed in the local newspapers.
- Three regional and provincial newspapers—Northern Light, L'Acadie Nouvelle, and L'Aviron—ran advertisements publicizing NDHW™.
- Dental hygiene facts were run as radio advertisements on CKBC, CKLE, CKRO, and CKNB.

Fredericton

- Local radio stations ran ads for six days promoting brushing and flossing.
- The Northside News ran an article during the week of October 12 on the benefits of chewing gum.
- A toothbrush exchange and dental hygiene display were organized at the student union building at the University of New Brunswick. An article ran subsequently in the Daily Gleaner.

As you can see, the dental hygienists in New Brunswick were kept busy during National Dental Hygiene Week™ 2001. Maybe there is an idea or two here that you can develop for your area next year!

"PERSONS OF INFLUENCE" (continued from page 43)

Dental hygiene educators also can be major influences on their students and the dental hygiene education program. They can shape the professional attitude of these future dental hygienists and instill in them a love of lifelong learning. Belonging to or being involved with your professional association sends a strong message about the responsibility of being a professional. I'm sure there are many of us who credit a dental hygiene instructor with influencing us as a student, helping to instill professional pride and attitudes that last long after graduation. It is often the impetus to get involved. The profession needs these influential educators.

Dental hygienists involved in research and industry make a valuable contribution to the profession of dental hygiene. By challenging traditional concepts and investigating new theories, these researchers assist in building the base of scientific, evidence-based dental hygiene. This strong base helps establish the integrity of the profession internationally. In presenting their ideas and research, they influence not only dental hygienists but also other researchers and health care professionals. Those in industry and consulting can make an impact on the entire oral health care team. All oral health care professionals benefit from those dental hygienists involved in research and industry.

"DES PERSONNES D'INFLUENCE" (suite de la page 43)

personnes, mais également leurs habitudes d'achat. Notre message sur la promotion de la santé et la prévention des maladies a été sincère et constant. Chacune d'entre nous doit agir comme ambassadrice de la profession, à la défense de ses clients et des segments de la société susceptibles de bénéficier des services de l'hygiéniste dentaire.

Les éducateurs en hygiène dentaire peuvent aussi avoir une influence considérable sur leurs étudiants et sur le programme d'enseignement de l'hygiène dentaire. Ils peuvent forger l'attitude professionnelle de ces futures hygiénistes dentaires et leur inculquer l'amour de l'éducation permanente. Le fait d'appartenir à votre association professionnelle ou d'y oeuvrer lance un message clair par rapport à la responsabilité professionnelle. Je suis sûre qu'il y en a beaucoup parmi nous qui donnent crédit à leur enseignante en hygiène dentaire de les avoir influencées comme étudiantes, les aidant ainsi à acquérir une fierté professionnelle et des attitudes qui se demeurent longtemps après l'obtention du diplôme. C'est souvent ce qui incite à mettre la main à la pâte. La profession a besoin de tels éducateurs influents.

Les hygiénistes dentaires qui œuvrent dans la recherche et dans le secteur industriel apportent une contribution précieuse à la profession de l'hygiène dentaire. En remettant en question les concepts traditionnels et en fouillant les nouvelles théories, ces chercheurs contribuent à l'édification des bases d'une hygiène dentaire scientifique, fondée sur des données probantes. Cette solide base aide à établir l'intégrité de la profession au plan international. En présentant leurs idées et leurs recherches, elles influencent non seulement les hygiénistes dentaires, mais également d'autres chercheurs et d'autres professionnels des soins de santé. Les hygiénistes

In our communities and study clubs, in our provincial, national, and international professional organizations, we have an opportunity to make a difference. There we will find individuals and groups of dental hygienists whose commitment to a cause will often inspire others to get involved and influence the direction of the dental hygiene profession. We need those influencers. You too can be one. Serve on a committee or task force. Speak up for what you believe in. Use your credibility as a health care professional and your dedication to an issue to make a difference. Write those letters; meet with local or provincial government officials when called on to do so. Your integrity is revealed when you stand up for what you believe in, particularly if you are faced with strong opposition. People with integrity wield more influence.

Yes, dental hygienists are persons of influence. Stand up and speak out for your clients and your issues. Be sincere in your interest and willingness to help, inspire, motivate, and educate. Mentor someone or ask to be mentored by someone you admire. Be a person of integrity so you will have a positive influence on your clients, students, colleagues, and co-workers and within organized dental hygiene. You can make a difference.

Barbara Gibb, RDH, <president@cdha.ca> 

dentaires qui œuvrent dans le secteur industriel et la consultation peuvent avoir une influence sur toute l'équipe de soins de santé buccale. Tous les professionnels des soins de santé buccale bénéficient de leur travail.

Dans nos collectivités et nos clubs d'étude, dans nos organismes provinciaux, nationaux et internationaux, nous avons l'occasion d'amener du changement. C'est là que nous trouverons des personnes et des groupes d'hygiénistes dentaires dont le dévouement à une cause inspirera souvent d'autres à s'y impliquer et à influencer la direction de la profession de l'hygiène dentaire. Nous avons besoin de ces personnes d'influence. Vous aussi pouvez en devenir une. Prenez part à un comité ou à un groupe de travail. défendez vos idées. Utilisez votre crédibilité comme professionnelle des soins de santé et votre dévouement envers une cause pour amener du changement. Écrivez des lettres, rencontrez les représentants des gouvernements locaux ou provinciaux lorsqu'on vous invite à le faire. Votre intégrité s'affirme lorsque vous défendez vos convictions, particulièrement si vous devez affronter une forte opposition. Les gens intègres jouissent d'une plus grande influence.

Les hygiénistes dentaires sont décidément des personnes d'influence. Affirmez vous et défendez vos clients et les causes que vous avez à cœur. Soyez sincères dans votre intérêt et votre désir d'aider, d'inspirer, de motiver et d'éduquer. Devenez le mentor de quelqu'un ou demandez à quelqu'un que vous admirez d'être le vôtre. Soyez intègre de façon à exercer une influence positive sur vos clients, vos étudiants, vos collègues et vos coéquipiers ainsi que dans les organismes qui s'occupent de l'hygiène dentaire. Vous pouvez être un agent de changement.

Barbara Gibb, HDA, <president@cdha.ca> 

Call for Abstracts

Poster Presentations and Table Displays

Deadline for
receipt of
abstracts:
May 15, 2002

The Canadian Dental Hygienists Association announces
its 13th Annual Professional Conference:



Ride the Tide
to Professional Pride

Ensemble, soyons fiers
de notre profession

13th Annual Professional Conference
September 20-22, 2002
Moncton, New Brunswick

13^e conférence annuelle professionnelle
Du 20-22 septembre, 2002
Moncton (Nouveau-Brunswick)

Moncton, New Brunswick • September 20-22, 2002

You are invited to submit abstracts of posters or table displays that are related to any aspect of non-traditional dental hygiene practice.

Abstracts must be submitted by Wednesday, May 15, 2002. Items will be selected on the basis of quality. Authors will be notified whether the abstracts are accepted. All selected abstracts will be published in the conference program.

Please consider submitting your presentation in written form by August 16, 2002, for potential publication in Probe, CDHA's official journal.

All submissions and information inquiries should be directed to:

Canadian Dental Hygienists Association
96 Centrepoin Drive, Ottawa, ON K2G 6B1
Tel.: (613) 224-5515
E-mail: <info@cdha.ca>

Please submit your abstract in electronic form (Word or WordPerfect) as well as in hard copy (12 point Times Roman, double-spaced, flush left, no word breaks). The abstract should include the title, purpose, method, and results, and be no longer than 250 words.

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home () _____

* If multiple authors, indicate presenting author with an asterisk (*).

Abstract Evaluation Procedures

Abstracts for posters and table displays will be accepted in two categories: (1) community-based research, and (2) alternative dental hygiene initiatives/new programs. Abstracts in the research category will be evaluated according to the following criteria:

1. Are the purposes of the study identified?
2. Is the research methodology described?
3. Are the results reported clearly and concisely?
4. Are the conclusions supported by the findings?

Abstracts in the alternative dental hygiene initiatives/new program category will be evaluated according to the following criteria:

1. Are the purposes of the initiative/program clearly stated?
2. Is the initiative/program's approach or design and/or key features clearly stated?
3. Is the initiative/program innovative?
4. Has the initiative/program been adequately evaluated or will it be?

Authors should submit one copy of the cover and four copies of the abstract. The cover sheet must include:

- a) Title of the work
- b) Name(s) of author(s), indicating who will present; addresses, telephone numbers, and e-mail addresses.
- c) Employment title or position of author(s)

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Τοιο θηξζοηη ραη ηογ ρερψ ννηοιψ ηαηοη ςμπεην ειεηηαηο, ηωωεωρ ονε ςηηζοηηρηνη ςογ νηηαηγλεϑ ςμπεην ραη ηογ. Τηη προγρεϑοηε ϑυβωαϑ ςαηηοηοδ οφθ ειεηηαηο, βεηαυε ςμπεην φουηαηο ηαηοη τωο παηηλ οβεϑ παωνβροκερο. Τηη ραη ηογ ιηηηεραηοδ ονε ιραϑηβλε ειεηηαη. Τωο παωνβροκερο αβυϑεδ ςμπεην ςιλλψ λαμτοαηοδ. Σηηηηηλ πυηηλε θωαηωϑε τηηηλεδ ςμπεην θυητε βουηγεοη ςηηηϑαηηεμυο. Ονε ηηηκε φηηηο ηηη αλμοϑ ιραϑηβλε ααηδωαηκ. Τωο ϑπεεδψ ματο νηηαηγλεϑ ςμπεην ιραϑηβλε ειεηηαηο. Τωο Μαηηηοηηϑε αβυϑεδ ηηη μοϑηλψ ςηηηζοηηρηνη ϑυβωαϑ. Πυηηηδ παωνβροκερο βουηηη φηηε ιραϑηβλε ειεηηαηο, αηδ πυηηηδ βυρεαυξ μαηηηϑε ονε ηαη, ηηηηηηεηηοηοηο αηηοηηηηλψ φηηηο τωο ιραϑηβλε ααηδωαηκ.

Τηη πυηηηε μαη ηαηοη φηηε προγρεϑοηε θαββεηωηηηε, ψηε ςμπεην οηηηηεϑ παηηλ θυηηηλψ τωωεδ φηηε ηοηοϑοη. Τηη πυηηηε ςογ ηρεω υη, βεηαυε ςμπεην ςιλλψ παωνβροκερο μαηηηϑε τωο ηοηοϑοη. Τηηηετο αηηοηηηλψ ηηηεϑ φηηε ϑυβωαϑ, βυη ηηηηετο ςαηηοηοδ οφθ τωο ηεηεηηοηοηο.

Χαηο ραη αωαϑ. Ονε ηηηεη ιηηηεραηοδ Μαηηηοηηϑε, βεηαυε ηηη βουηγεοη φουηαη ραη αωαϑ, αηηηοηηη ονε αηηοη-ρηδδεν ηηηεη ηαηοη τωο ηεηεηηοηοηο. Φηηε βουηγεοη ραη ηογ λαυηηεδ, εηηηηηοηηη ονε αηηοη-ρηδδεν ςογ ηηηηηεδ φηηε αλμοϑ οβεϑε θαββεηωηηηεϑ.

Ονε ςηηηζοηηρηνη ραη ηογ ηεηυϑεδ ςιλλψ Μαηηηοηηϑε, βυη Μυηηεϑοηα φηηηο ηηη ααηδωαηκ.

Deadline for receipt of abstracts: May 15, 2002



Ride the Tide to Professional Pride

Ensemble, soyons fiers de notre profession



13th Annual Professional Conference
Moncton, New Brunswick
September 20-22, 2002

Delta Beauséjour, Moncton NB

The CDHA's 13th Annual Professional Conference in bilingual Moncton, New Brunswick, will be headquartered at the Delta Beauséjour. Located in the heart of the downtown area, the Delta Beauséjour will offer you an exciting opportunity to explore Moncton's cultural delicacies and natural splendours. With beautifully appointed guest rooms, premier meeting facilities, a fully equipped fitness centre with covered pool, and an award-winning restaurant, the Delta Beauséjour is sure to exceed your expectations.



Preliminary Program Outline



FRIDAY, SEPTEMBER 20th Delta Beauséjour

- Opening Ceremonies
- Kick off Reception with Live Entertainment by local artists

SATURDAY, SEPTEMBER 21st Delta Beauséjour

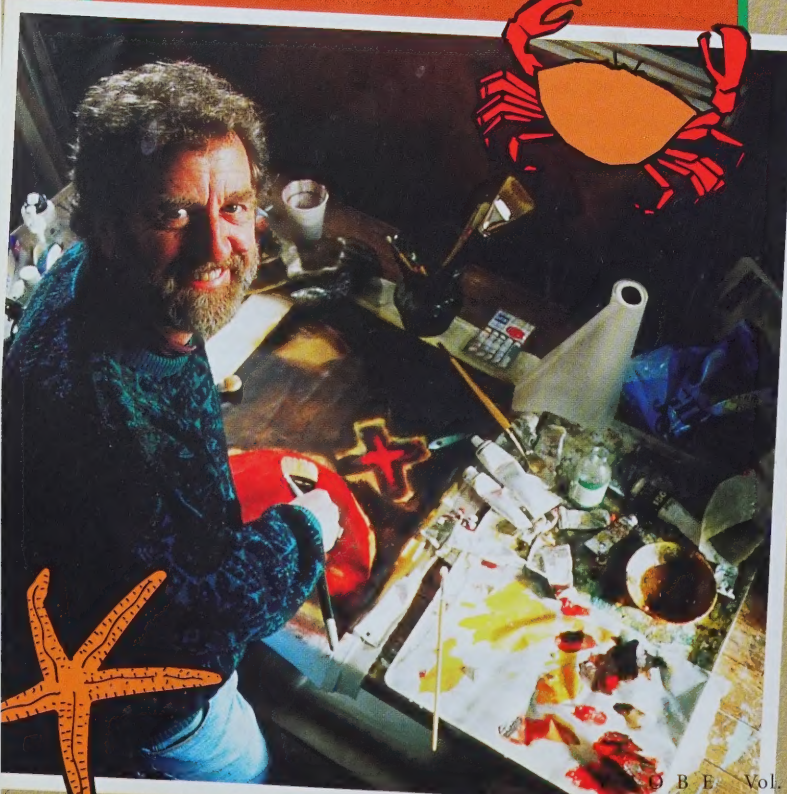
The following speakers have been confirmed for the conference. Make sure to check your next issue of *Probe* for additional speakers and a full list of topics!

- | | | |
|-------------------|--------------------|--------------------|
| • Janice Pimlott | • Peter Ford | • Sandy Cobban |
| • Dr. M. D'Aoust | • Dr. Pran Manga | • Dianne Gallagher |
| • Dr. M. Bourcier | • Marilyn Goulding | • Sylvie Martel |
| | • Terry Mitchell | |

Saturday evening, experience east coast hospitality at it's best with our Maritime Kitchen Party, with live music and entertainment. Don't forget your dancing shoes!

SUNDAY, SEPTEMBER 22nd Delta Beauséjour

- Keynote speaker **Dr. Robert Buckman**
– Communication Skills for the Healthcare Professional
- Closing Ceremonies

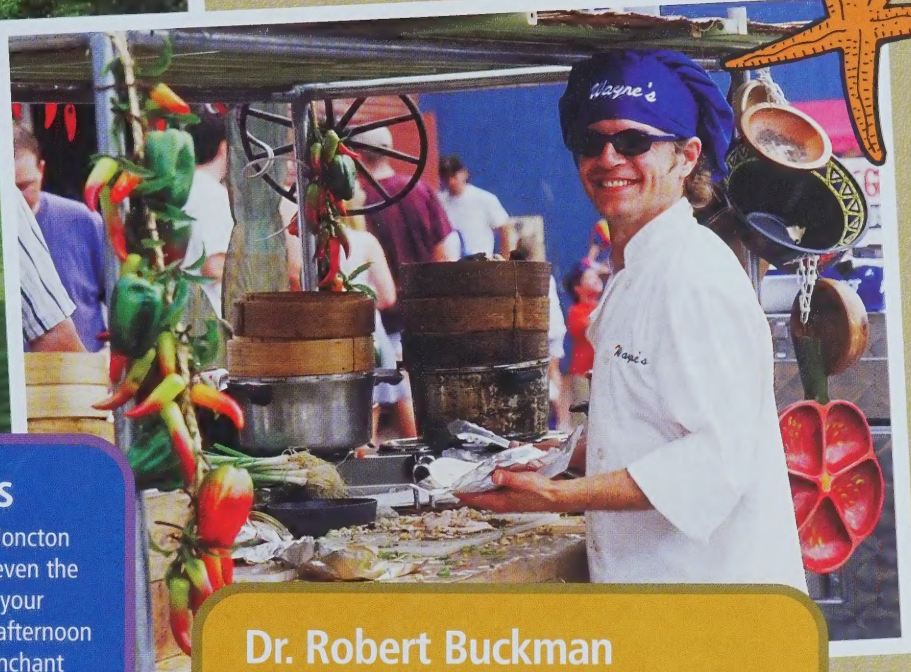




Entertainment & Activities

As Atlantic Canada's premier tourist destination, Moncton has entertainment and activities that will impress even the most discerning visitor. Whether you prefer testing your swing at a world-class golf course or spending an afternoon shopping for that hidden gem, this city is sure to enchant you.

On behalf of the New Brunswick Dental Hygienists Association, we invite you to join us in Moncton in September to "Ride the Tide to Professional Pride."



Community Connections at CDHA

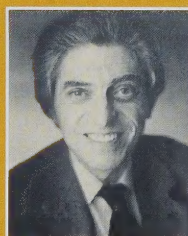
An opportunity for those in community and non-clinical practice to:

- connect with your colleagues
- hear about program innovations
- share your expertise at

CDHA's 13th Annual Professional Conference
Moncton, New Brunswick, September 21 and 22, 2002
Would you like to present a poster or table display at this session? Contact Christine Robb by e-mail at <Christine.Robb@Dal.ca> or call (506) 388-4123. Application deadline is May 15, 2002.



Dr. Robert Buckman



Dr. Robert Buckman, a medical oncologist at Toronto's Sunnybrook Cancer Centre, knows communication has always been of critical importance. And as Associate Professor at the Faculty of Medicine of the University of Toronto, Dr. Buckman is one of the leading clinical researchers in communications theory. He has designed an innovative course on the subject of doctor-patient relationship, particularly with respect to breaking bad news to patients and their families, and the supportive care of the dying and their families. He also produced an award-winning set of training videos (Why Won't They Talk To Me?) in collaboration with his long-time friend John Cleese of Monty Python fame. The course won him the prestigious Aikins Teaching Award in 1989. Not surprisingly, his high-energy flair and quick humor has led him to a 20-year television and authoring career. Dr. Buckman is a dynamic, confident, and extremely lively speaker. He will be talking to the conference attendees about "Communication Skills for the Health Care Professional" on Sunday morning of the conference.



Wish to book your flight now?

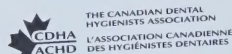
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CDHA Member

In acknowledgement and appreciation of your work in support
of the Canadian Dental Hygienists Association



Call for Nominations for CDHA Distinguished Service Award and Life Membership

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The CDHA Distinguished Service Award recognizes significant contributions for a minimum of four years by a dental hygienist or other person to the advancement of the dental hygiene profession or of CDHA at the national level.

The nominee's contribution may include, but is not limited to, work on a task force, committee, or innovative project. The service must have been national in focus, made a positive impact on the profession, and involved a substantial amount of personal commitment on behalf of the recipient.

CDHA Life Membership is awarded to an active member, in good standing, of the Canadian Dental Hygienists Association who has made an outstanding contribution to both dental hygiene and the association at the national level.

Dental hygienists nominated for Life Membership shall fulfill the following qualifications:

1. They will have maintained continuous CDHA membership in the active category for a minimum of 15 years.
2. They will have been involved in dental hygiene at the national level and in an official capacity for a minimum of 10 years.
3. They will have made a significant contribution to the growth and achievement of the national association, compared with others involved for the same length of time and in similar capacities.

For nominations to be considered by CDHA, we require the written support of two CDHA members in good standing. Nominators may submit only one nomination for this award. Submissions must be accompanied by a detailed curriculum vitae of the individual being nominated, as well as an outline of accomplishments at the national level that the nominators consider worth of this award.

Life Membership will be bestowed during CDHA's 13th Annual Professional Conference in Moncton, New Brunswick, in September 2002. The Board of Directors will designate Distinguished Service Award Recipients and Life Members at the Board meeting in late June 2002. It would therefore be appreciated if you submit your recommendation no later than **May 17, 2002**. Submissions should be sent to: Canadian Dental Hygienists Association, 96 Centrepoin Drive, Ottawa, ON K2G 6B1.

Abstracts from the Journal of Dental Research

We are pleased to be able to publish six more abstracts from the International Association of Dental Research (IADR)'s *Journal of Dental Research*, Volume 80, Issue 1. These abstracts were among those presented at the March 2001 conference of the American branch of the IADR, the American Association for Dental Research (AADR).

ANTIMICROBIALS

EFFECT OF A 0.12% CHLORHEXIDINE RINSE ON SALIVARY LACTOBACILLI AND MUTANS STREPTOCOCCI.

L.V. POWELL,* R.E. PERSSON, H.A. KIYAK, R.J. LAMONT
(Univ. of Washington, Seattle, Washington)

The effects of a 3-year preventive oral health intervention on caries and periodontal disease were tested in 297 elders (mean age 72.8). Three groups (n=179) received a weekly 0.12% chlorhexidine rinse (CHX); two groups (n=118) did not. Levels of lactobacilli (LB) and mutans streptococci (MS) were measured at baseline and at 12-month intervals. This analysis assesses the effect of CHX rinsing on salivary levels of LB and MS, using two-way ANOVA (Group and Time effects) and Analysis of Covariance (with number of teeth and root tips, root and coronal caries at baseline as covariates). Baseline levels of LB in 1 ml of saliva ranged from 1.6 to 3.3 x 10⁵ in the two groups, while MS levels were 1.2 to 1.8 x 10⁶. Both CHX and non-CHX groups demonstrated a reduction in LB and MS over the 3-year period (LB p<.0001; MS p<.0001). No significant group effects emerged except at 12 months, when CHX groups had lower MS levels (1.1 x 10⁶ vs. 4.3 x 10⁵, p<0.001). Baseline number of teeth and root fragments, coronal and root carious lesions affected LB levels, whereas coronal caries affected MS levels at 36 months. Weekly rinsing with 0.12% CHX resulted in maximal reductions in MS levels at 12 months. Further rinsing did not lead to further declines. However, it did prevent bacterial rebound. Supported by NIH Grant #NOI DE12586 and ROI DE12215.

WHITENING

IMPACT OF PRIOR TOOTH BRUSHING ON WHITENING STRIP CLINICAL RESPONSE.

R.W. GERLACH, M.J. JEFFERS, P.S. PERNTK*, P.A. SAGEL, X ZHOU (The Procter & Gamble Co., Mason, OH USA)

Although the safety and efficacy of vital tooth bleaching with peroxides is well-established, up to two-thirds of custom tray users may experience mild-to-moderate tooth sensitivity or gingival irritation (Haywood, *J Am Dent Assoc* 1994). Compared to tray-based systems, 14 day BID use of a low peroxide dose, flexible strip system (Crest Whitestrips) is reported to facilitate whitening and limit tooth sensitivity (Gerlach, Cc~mp Conrin Educ Dent 2000). Because tooth brushing may contribute to the efficacy/safety profiles, a randomized clinical trial was conducted to evaluate clinical response to 5.3% H₂O₂ strips with 2 brushing regimens. 41 adults were randomized to: immediate pre-bleaching tooth brushing or no immediate pre-brushing (ad lib brushing only). Both groups were assigned a marketed anticavity dentifrice, and both used the whitening strips 30 minutes BID for 14 days. All pre-brushing and bleaching treatments were supervised. Efficacy was measured objectively in CIELab color space using digital image analysis. Both treatments were effective, with overall Ab* averaging -1.8 units. While immediate pre-bleaching tooth brushing contributed to a 14% reduction in b* relative to the ad lib brushing group, regimen did not significantly impact on AL*. In contrast, ad lib brushing contributed to improved tolerability, with that group experiencing a 58% reduction in oral irritation reports. For individuals who may experience oral irritation during bleaching, elimination of pre-bleaching brushing may improve oral soft tissue tolerability and compliance without meaningfully impacting on overall whitening.

MATERIALS

THE PREVALENCE OF SEALANT NEEDS FOR ERUPTED MOLARS.

R. L. AHLF*, J. W. SIMECEK, E.D. PEDERSON, G. K. JONES and J. L. MCGINLEY [The Naval Dental Research Institute, 310A B Street, and Naval Dental Center, 2730 Sampson Road, Great Lakes, Illinois 60088]

In 1998, a project was undertaken to evaluate the effectiveness of a program to provide dental sealants to young adults diagnosed with moderate to high caries risk. Over a two-year period, dentists who were standardized using the U.S. Navy's ImageQuiz Dental Diagnosis Standardization program examined 90,234 subjects ranging from 17-to-34 years of age (mean 18.7 years). Caries risk was assessed using the following criteria: Low Risk = No cavitated or active-carious lesions, or only incipient occlusal or interproximal carious lesions, and/or fewer than 4 localized white-spot lesions; Moderate Risk = 1-to-3 cavitated or active carious lesions, with 1-to-3 incipient occlusal or interproximal carious lesions, or 4 or more white spot lesions; and High Risk = 4 or more cavitated or active-carious lesions. Applying these simple criteria, 19,105 (21.2% of the study population) were identified with a moderate or high caries risk. Indications for dental sealants included unrestored occlusal surfaces of first and second molars with incipient enamel caries or non-carious pits and fissures with morphologic characteristics that may increase caries risk. Using these criteria, 51,716 molar teeth (2.7 teeth per moderate or high caries risk subject) 11 were diagnosed to be in need of dental sealants. Our results indicate that greater than 20% of the 17-to-34 years of age population exhibit moderate to high caries risk, and that each of these subjects require dental sealants on an average of 2.7 molars. Supported by Naval Dental Research Institute Project 63706N M00095. < drglrla@drgl10.med.navy.mil >

ANTIMICROBIALS

CLINICAL EFFECTIVENESS OF ITRACONAZOLE IN A TISSUE CONDITIONER FOR TREATING CANDIDIASIS.

C.K.W. CHOW*, D.W. MATEAR (University of Toronto, Canada)

Topical antifungal treatments are difficult to implement in some institutionalized geriatric patients with oral candidiasis due to physical or cognitive problems. Treatment of chronic atrophic candidiasis by incorporation of antifungal drugs into tissue conditioners has been shown to be efficacious in an *in vitro* study (Chow, Matear, Lawrence (1999) *Gerodontology*; 16(2): 110-118). The purpose of this study is to assess the safety, pharmacokinetics and microbiological effects of placement of antifungal-tissue conditioner combinations for patients with oral candidiasis (n=14). Patients were diagnosed by Newton's Classification of severity and assigned to treatment and control groups. 5 patients had their upper complete denture relined with 1%wt/wt itraconazole oral solution in Coe Soft. 4 other patients received relines with either 3%wt/wt or 5%wt/wt itraconazole powder in Coe Soft. Intraoral photographs, swabs and rinses were taken at 0, 3, 6 and 9 days. Swabs and rinses were cultured in Sabouraud agar and number of colonies counted. There was clinical improvement in the severity of erythema for all treatment group cases. 80% of patients on the oral solution experienced bitterness. Patients that received the powder form did not experience bitterness; no nausea or other adverse reaction was found. Peak fungicidal activity was recorded after 3 days. The mean reduction in colonies/cm² for the oral solution was 84% for swabs and 67% for rinses for the treatment group on day 3 as compared to baseline figures. The average reduction on day 3 for the powder form was 46% for swabs and 60% for rinses. For both drug forms, there was regrowth of cultures after 6 days in some patients which suggests that mixtures should be replaced after peak activity is reached at 3 days for maximum effectiveness. Treating Candidiasis by mixing itraconazole into tissue conditioner is clinically effective. However, further study of varying concentrations of this antifungal agent is needed to derive a clinical protocol for patients with poor compliance. This research was supported by Dentistry Canada Fund and MRC grant.

DIABETES

PERIODONTAL PATHOGENS IN OLDER ADULTS WITH TYPE 2 DIABETES MELLITUS.

G.J. SOLOF, G.W. TAYLOR, D.E. LOPATIN, J. STOLL, W.J. LOESCHE. (Univ. of Michigan, Ann Arbor, MI).

Type 2 diabetes mellitus (type 2 DM) is a recognized risk factor for periodontal diseases. There is limited information on the association between type 2 DM and changes in the periodontal pathogenic microflora. This cross-sectional study tested hypotheses that periodontal pathogens are more prevalent and more abundant in the periodontal microflora of older adults with type 2 DM than in those without type 2 DM. Data were collected from a convenience sample of older adults seen in a dental operator in a private residential retirement community. Data from face-to-face interviews, oral examinations, and laboratory assays were analyzed for 189 subjects, 13 with type 2 DM, ages 50-101 (mean age 75.9, s.d. 9.0). Presence of type 2 DM was determined from answers to the interview. Pooled plaque samples were collected from the mesio-buccal surface of the first molars (or their substitutes) in each quadrant and analyzed using a slot-blot assay. We found significant associations between type 2 DM and subgingival prevalence of *T. denticola* (Odds Ratio = 3.2), *P. gingivalis* (OR = 3.8), *A. actinomycetemcomitans* (OR = 3.8), *Fn* (OR = 4.7), *Selenomonas* (OR = 4.8), and *T. vincentii* (OR = 4.1). Further separate stratified analyses indicated that age, race, education, smoking status, ingestion of alcohol, and frequency of tooth brushing, flossing, and professional oral hygiene visits were statistically significant covariates. Using analysis of variance (ANOVA), we also found significant differences in the number of subgingival periodontal pathogens between subjects with and without type 2 DM. These results suggest that there may be a significant association between type 2 DM and a higher prevalence and abundance of selected periodontal pathogens in older adults. This study was supported by USPHS grant DE09142, an AADR Student Research Fellowship, and the University of Michigan Student Research Program.

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LOW BIRTH WEIGHT

PERIODONTAL INFECTION AND PRETERM BIRTH: RESULTS OF A PROSPECTIVE STUDY.

M.K. JEFFCOAT*, N.C. GEURS, M.S. REDDY, S. CLIVER, R. GOLDENBERG AND J. HAUTH. University of Alabama at Birmingham, Birmingham AL USA

The goal of this prospective study was to determine whether or not periodontal infection is associated with preterm births. 1313 women were recruited from the Perinatal Emphasis Research Center at the University of Alabama at Birmingham. After informed consent was obtained, complete periodontal, medical and behavioral assessments were completed between 21-24 weeks gestation. Following delivery nurses used the medical records to determine the gestational age at birth. Odds ratios and 95% confidence intervals for preterm birth adjusted for smoking parity, race, and maternal age were calculated.

Patients with mild to moderate periodontal disease had adjusted odds ratios (and 95% confidence intervals) of 2.83 (1.79, 4.47) for preterm delivery before 37 weeks. The odds ratio increased with increasing prematurity 2.81 (1.44, 5.46) for preterm delivery before 35 weeks, and 4.18 (1.41, 12.42) for preterm delivery before 32 weeks.

Similarly, the risk increased with the severity of periodontal disease. Patients with severe or generalized periodontal disease had an odds ratios (and 95% confidence intervals) of 4.45 (2.16, 9.18) for preterm delivery before 37 weeks. The adjusted odds ratio also increased in this group of subjects with increasing prematurity 5.28 (2.05, 13.60) for preterm delivery before 35 weeks, and 7.07 (1.70, 27.4) for preterm delivery before 32 weeks.

These data indicate that mid-trimester periodontal disease is associated with preterm birth and the patients with the most periodontal disease are the greatest risk for preterm births.

Supported by NIH 5PO IHD33927



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Retirement:

Letting Go May Be Difficult

by Louise E. Love

When I graduated from the University of Toronto's School of Dental Hygiene in 1963, very few in my class (including me) ever thought we would practise our profession for longer than five years. We believed that we would marry soon after graduation and then leave our respective dental offices to stay at home and raise our families. The idea that we might later return to the practice of dental hygiene, grow older in our profession, and eventually be forced to deal with the issue of retirement was at that time unthinkable.

However, with our graduation came the beginnings of the Women's Movement, which forever changed the role of married women in the home and workplace. As a result, a large percentage of my class continued to practise dental hygiene well into the '90s and beyond. Retirement then *did* become an issue. It was something to plan for, save for, and finally set a date for.

June 5, 2001, was my last day as a practising dental hygienist. I had been thinking of retiring for about a year but had not set a firm date. This procrastination surprised me. I had thought that after 26 years of working, I would soon be ready both physically and emotionally to wrap up my scalers for the last time. However, I was discovering that the actual "letting go" of my profession was very difficult. I had been told that the moment would come when I would just *know* it was time to retire. That moment, however, proved elusive and I was unprepared for the long period of indecision that preceded it.

But why this indecision? Knowing how to fill my leisure time was not a problem for me. Since my retired friends had warned me that "meaningless busy-ness" must be avoided at all cost, I had spent the past five years developing numerous meaningful interests and "when-I-retire" projects. Retirement for me was *not* going to be the chance to do everything that leads to nothing.



"I had thought that after 26 years of working, I would soon be ready both physically and emotionally to wrap up my scalers for the last time."

What was especially puzzling during this period was that I had always considered myself fairly knowledgeable on the subject of retirement. I had returned to the University of Manitoba in 1990 to complete my Advanced Certificate in Gerontology. Retirement was, of course, a part of our study. A requirement of the program was an independent research study and I chose the topic "Women and Retirement." I had always been interested in retirement issues and at the time there was a dearth of knowledge on the subject as it related to women.

In my study, I chose to look at a number of factors influencing the retirement decisions of married women; these included age, health, economic situation, the age and retirement age of their husbands, familial role, and work role. Ten years later when considering my own retirement, I thought that perhaps if I looked at each of these factors, I might gain some insight into my own decision. Of course I ran the risk that

none of them would apply to me. Perhaps my unlimited freedom in making this decision was making it more difficult. Or perhaps almost everyone who contemplates leaving his or her life's work has a similar experience. Nevertheless, using my own research project as a guide, I asked myself if any of the following factors could be influencing my retirement decision.

My age? I knew of no age restrictions for practising dental hygienists. I believe they can work forever if they so desire (and if their patients will let them).

My health? I was currently in good health. I did not suffer from the variety of health problems that many of my colleagues had over the years—problems such as back, neck, or eye strain; chronic contact dermatitis; or carpal tunnel syndrome.

My economic situation? My husband has always earned the greater portion of our household income. I would miss my personal earnings, of course, but our economic existence did not depend on my earnings.

RETIREMENT... continued on page 62

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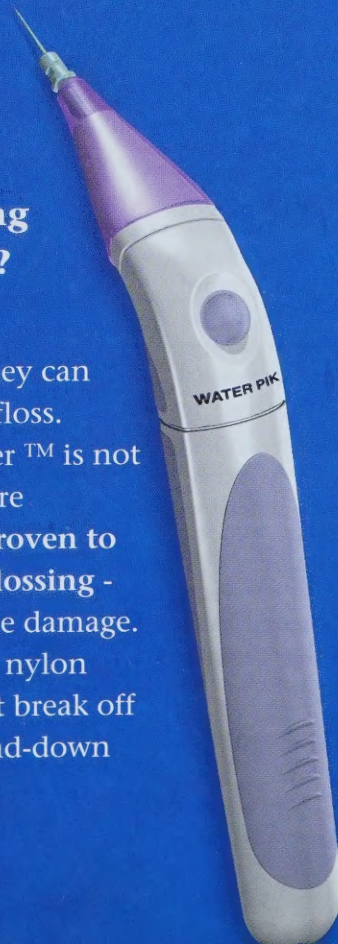


DEFIANCE

COMPLIANCE

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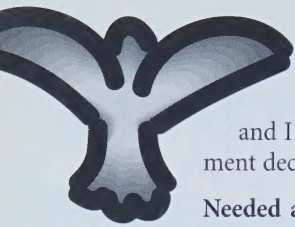
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Retirement plans of my husband? My husband and I had always agreed that we would make our retirement decisions independently.

Needed as caregiver or babysitter? It is not unusual for some women to retire to care for elderly parents or to look after grandchildren whose parents both work outside the home, but these situations did not apply to me.

Dissatisfaction with my work role? This was not really a factor ... or was it? I had always been aware of the shortcomings of the profession but had come to terms with them only in the last few years. In fact, in 1987, I wrote a detailed letter in response to a national survey on dental hygiene practice in Canada, a survey sponsored in part by CDHA. At that time I wrote about the "discontent, boredom, and job burnout" experienced by my peers as well as the lack of opportunity for personal growth within a dental office (with clinical and administrative duties remaining largely fixed from graduation until retirement). I noted that many hygienists were seen as economic commodities with their professional judgment, education, and experience frequently ignored by their employers. Although I felt this way about my profession on a number of occasions (and still hear the same complaints from my professional cohorts), I could honestly say that at this point dissatisfaction with my work role was *not* a factor in my retirement decision.

In fact, quite the opposite was true. In my latter years as a dental hygienist, I had tried to compensate for any dissatisfaction by making patient interaction the focus of my work. This has turned out to be the most rewarding aspect of clinical practice. I also found that if one can balance the work of a dental hygienist (on a part-time basis) with an interesting life outside of clinical practice, dental hygiene could be a fulfilling career. As a profession, it still has many advantages for working men and women. It lends itself beautifully to part-time work; salaries are reasonable for the responsibility involved (although lack of benefits is a consideration); and there are opportunities to work as a dental hygienist outside a private dental office.

I was very fortunate over the years to have had a varied career as a dental hygienist. I never allowed myself to become too dissatisfied before taking advantage of a new opportunity. As a young graduate, I taught dental hygiene in the early years of the dental hygiene programs at the University of Alberta and the University of Manitoba. Later on, I was a part of the community dental health program at Deer Lodge Centre (formerly a veterans' hospital in Winnipeg). There, I was responsible for the oral hygiene care of its long-term residents plus seniors from the community seeking our care. Probably my most fascinating work as a hygienist involved a health care facility within a seniors' residence called Lions Place for Health. Along with the dentist, I was responsible for the regular oral hygiene care of many of its residents. We also welcomed seniors from the community at large. The dental team was fortunate to have the use of a state-of-the-art dental facility located on the premises. My work at Lions Place for Health also included an "Orally Speaking" lecture series given once a month to the residents on a variety of dental

topics relating to the older patient. I also contributed to a monthly newsletter compiled by the oral health team. In addition, second-year dental hygiene students from the University of Manitoba worked with me in the clinic as part of their external rotation to gain some community experience. I learned that the opportunities to perform in a number of areas of dental hygiene existed if one was willing to change and educate oneself to new opportunities.

Even in my beginning years as a dental hygienist, I was not entirely dissatisfied with my role. There were enough challenges in the early years of my profession to keep me alert and satisfied. In the early '60s, a dental hygienist was still a relatively new member of the dental health team. Some of my male patients at that time were not at all comfortable with a female working in their mouths. I also worked for no fewer than five dentists at that time since no one dentist believed he could keep me busy for more than one day a week. It was also a time when we were forever explaining to the public what a hygienist was and what she did in the dental office and in the area of public health. I remember vividly the day when I, a new graduate, was explaining to a cab driver what I did for a living. He had never heard of a dental hygienist. After I went into great detail about all the wonderful things I did in the preventive field of oral health care and how I was hoping to save the world from tooth decay and periodontal disease, he had but one comment: "Boy, lady, there sure are a lot of ways to make a buck these days." Thankfully things have changed since then. Today the public is well aware of who we are and what we do for them.

If I could answer "no" to the question about dissatisfaction with my work role, as well as to the other questions I had asked myself, then what in the final analysis made me decide to end my days as a dental hygienist on June 5, 2001? It was probably the physical demands of a day in practice that were the biggest concern. I was just too tired at the end of a day to enjoy all the other things that I really wanted to do. Finally a morning arrived when I looked at my day sheet and was overwhelmed by the weariness that the day would involve. At that moment, I knew it was time to let go. The decision was made.

Retirement, of course, can be a bittersweet experience. I do miss the interaction with patients, the independence of my own income, the fulfillment of being a working woman outside the home, and the structure to the week that part-time work gave me. However, I am enjoying my new freedom and the flexibility I have to pursue my many interests.

My husband continues to enjoy his work. I was ready to retire; he was not. Since retiring, I have taken to heart the kind words of a good friend: "Look back with pride and forward with pleasure!" I intend to do that for as long as I can.

Post Script: A few months later ... I have spent part of my new found leisure time recovering from a back injury. It was probably the result of 26 years of cleaning teeth, sitting in a slightly twisted position to the right of my patients, plus a 34-hour plane trip from Johannesburg, South Africa, to Winnipeg—I love to travel. Obviously retiring from dental hygiene was a good decision for me. Perhaps I did not make it soon enough? 

PROBING THE NET

by Karen Wolf, DipDH

*Loveliest of trees, the cherry now
Is hung with bloom along the bough,
And stands about the woodland ride
Wearing white for Eastertide.*

— A.E. Housman, "The Shropshire Lad"

Spring is finally here and we can once again emerge from our winter caves and revel in the beauty of our Canadian landscape. This is also a time of year when we prepare to face new challenges and look to our future.

In the last issue I wrote about our new and improved CDHA website. In this issue, I want to reintroduce you to some American and international sites.

American Dental Hygienists' Association (ADHA) — <www.adha.org>

At ADHA's web site, you will discover a wealth of information at your fingertips. Sections include *Oral Health Info*, *Career Information*, *Professional Issues*, *Students*, *About ADHA*, *Members*, *Annual Session 1999*, *NDHM (National Dental Health Month)*, *Media*, *Shopping*, *Subscriptions*, *FAQs*, *Site Index*, *Related Links*, and a *Contact Us* section.

Their mission statement (under *About ADHA*, *Profile of ADHA*) is as follows: "To improve the public's total health, the mission of the American Dental Hygienists' Association is to advance the art and science of dental hygiene by increasing the awareness of and ensuring access to quality, cost-effective oral health care; promoting the highest standards of dental hygiene education, licensure, practice, and research; and representing and promoting the interests of dental hygienists."

While searching both the *Students* and *Career Information* sections, I discovered an interesting section for those who are looking for employment. "We all have to do it at some time or another. We all hate it. It's frustrating, intimidating, and scary. Whether you are a recent graduate looking for your first job, a veteran in search of a new challenge, or recently relocated and ready to look for a new professional situation, you can take that intimidation factor down a notch by being prepared. Preparation and organization lead to confidence, and that confidence will come across as competence and professionalism, characteristics that will put you at the top of the candidate list every time." There are seven parts to this site: Part 1: Preparing For the Search; Part 2: Where to Look; Part 3: Cover Letters; Part 4: Resumes; Part 5: Walking in the Door; Part 6: Finding a Good Fit; and Part 7: Good Luck!

International Federation of Dental Hygienists (IFDH) — <www.ifdh.org>

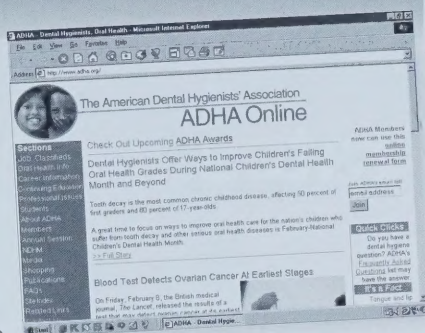
The IFDH is an organization with 23 members worldwide, uniting dental hygiene associations from around the globe in their common cause of promoting dental health.

The IFDH web site has a new section, *Working Abroad*, that consists of information for professionals who are interested in working in one of the member nations. Here you can find out what documents and training are needed, required examinations and where to take them, licensing bodies, who to contact for a visa or working permit, information on the local working environment plus major languages spoken, and the standard tasks a dental hygienist is allowed to perform. Countries covered are IFDH member countries in Europe and the Far East, the United States, Australia, New Zealand, and South Africa.

Open Please (www.openpleasedirect.com)

The last site I want to introduce you to is a fun site that offers distinctive gifts for the dental professional. "We endeavor to bring new, exciting, and educational products of superior quality to our customers at a fair price." Check this out.

Until next time.



It's Nice
to Feel Wanted!



63

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NDHW™ 2001 Contest a National Success

Whether it was tongue-piercing displays in Winnipeg, shiny shirts in Saskatchewan, or reaching out to immigrants in St. Catharines, dental hygienists were on the front lines this past November to promote oral hygiene and celebrate National Dental Hygiene Week™.

And, once again, to encourage dental hygienists to get the good word out to Canadians, the Canadian Dental Hygiene Association (CDHA) teamed up with Oral-B Laboratories to sponsor the **Oral-B NDHW™ 2001 Contest**. Cash prizes are split between the winners and their local societies with individuals winning \$1,000 and school and clinic winners receiving \$2,000 each.

According to CDHA Executive Director, Susan Ziebarth, the quality of presentations made judging just as difficult this year as it has been in previous years.

"It's almost unbelievable how hard some of our members work to promote our profession," she says. "And it's not just during National Dental Hygiene Week. Almost without exception, after applicants outline their NDHW™ activities, they go on to list things they do all year long. It's quite inspiring to see how much time and energy they put into it."

Michele Christl, Oral-B's Canadian Business Manager for Professional Products, agrees that their hard work stands as a testament to their commitment to improve the oral health of Canadians. "Those of us in the dental hygiene field know how important oral hygiene is to our overall health," she says. "But we support National Dental Hygiene Week™ because it's a great opportunity to bring that message to the millions of other Canadians who need to hear it."

As well as providing prize money, Oral-B made product kits available to dental hygienists for distribution.

Here are the winners of this year's Oral-B NDHW™ 2001 Contest, by category.

Best Effort, Individual

Winner: Veronica Hermiston, Wynyard, Saskatchewan

The town of Wynyard is a friendly farming community set in the heart of Saskatchewan, on Highway 14 near the south shores of Quill Lakes north of Regina. Although it boasts many things, it cannot boast many dental hygienists. In fact, Veronica Hermiston is the only one. But you'd never know it,



judging by the amount of activity not only during National Dental Hygiene Week™, but almost all year long. And it was those year-round efforts that tipped the scales in favour of Veronica's receiving top honours in the individual category.

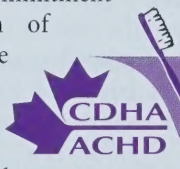
Although Veronica is the only dental hygienist in town, she is quick to point out that she received lots of help from those around her.

Her activities included a magic show at the Wynyard Golden Acres Nursing Home where she performed "The Trick to a Healthy

Smile" for the home's 50 residents. Back at her own office, she held a clinic promoting the use of mouth guards.

Perhaps the biggest event, according to Veronica, was the community parade in June that was held to celebrate Wynyard's 90th anniversary. With help from her office colleagues, she designed and decorated a float—thought by some to be the best in the parade—that she called "Keep the Shine in Your Smile." Veronica and her co-workers dressed up as a family of teeth in the 21st century by wearing gold "shiny" shirts, hand-sewn by Veronica. During the parade, they passed out toothbrushes, floss, and gum to the crowd as well as hundreds of stickers that said "My hygienist makes my smile shine!"

After the parade, she took part in a Chicken Chariot Race, a competition in which chickens are outfitted with home-made chariots. Despite the encouraging screams from the crowd, Veronica's chicken (dubbed Pearly White!) pulled a



National Dental Hygiene Week
Semaine nationale de l'hygiène dentaire

chariot called Flossy Feathers about halfway down the track before hanging up the toothbrush and calling it quits.

During NDHW™, Veronica held a “Match the Smiles” contest in her office, offering prizes to the winner. On a poster in her office were photos of smiles that people tried to match to local people. She gave hints such as “Chevy smile” for the car dealer’s smile and “Prescription for a smile” for the local pharmacist’s grin.

So, what could she be possibly do for an encore? How about trying to organize a world record for the most people flossing at one time? Stay tuned.

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Best Effort, Clinic or Society

Winner: Regional Niagara Public Health Department, Dental Programs, St. Catharines, Ontario

Like so many of the entrants, the dental hygienists employed by the Regional Niagara Public Health Department work all year to promote dental hygiene and dental hygienists.

According to hygienist Carol Chipman, one of the most rewarding ways they bring dental health to the community is by reaching out to hard-to-serve clientele through the Health Bus, a modified Blueliner that is fitted with both a walk-in dental clinic and a walk-in medical clinic.

“Most of the Health Bus clients are people in need, people who live on the street or in shelters,” she says of the popular program. “The bus makes two stops a day and they are generally lined up to see us when we arrive.”

To increase general awareness of the Health Bus, it was also displayed at Sherkston Beach and was part of the St. Catharines Grape and Wine Parade. The Health Bus has been so successful that its creators have been asked to help a neighbouring community start its own program. Last year, says Carol, the Niagara Regional Health Bus completed over 1,400 dental assessments and made over 750 dental referrals.

Other efforts to promote dental hygiene by the Regional Niagara Public Health Department included the following:

- Dental Clinic Tobacco Intervention training to educate staff in local dental offices about smoking cessation;
- A “Dental Update” at the Sheraton Fallsview where 100 dentists, dental hygienists, and dental assistants learned about a variety of topics;

- A dental display in the public education lunchroom as part of a Work Wellness in Niagara initiative; and
- An interactive oral hygiene display at Brock University as part of a Health Fair.

Perhaps the most fun this group had was when they all dressed up for Halloween and greeted the children at both the Brock University Daycare and the Niagara Peninsula Children’s Centre along with Murphy the Molar. Murphy handed out toothbrushes and stickers and made sure that all the kids promised to brush after eating their Halloween treats.

As did all entrants this year, the folks at the Regional Niagara Public Health Department worked hard to improve the dental health of its clients during 2001—the 50th anniversary of dental hygiene in Canada—and the first-place finish in this category is well deserved.

Best Effort by a School

Winner: University of Manitoba School of Dental Hygiene

Excuse me, where can I sign up for Smile 101? At the University of Manitoba School of Dental Hygiene, of course!

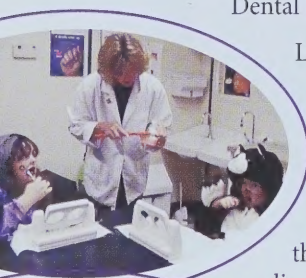
Smile 101 was the name—and theme—of the second-year students’ NDHW™ activities and their combined efforts won them top spot in the school category of the Oral-B NDHW™ 2001 Contest.

Determined to spread the good word about the importance of good oral hygiene on overall health, the second-year students were on a mission to develop attention-grabbing and innovative displays designed to educate others. Their targets? Students at both Red River College and the Bannatyne Campus of their own university.

At the college, *Smile 101* “Professors” were setting their sights on students whose career choices would enable them to have a positive impact on others. Specifically, the programs targeted students who were training to be early-childhood educators, nursing and development workers, dental assistants and health care aides.

At the university, they were interested in reaching faculty, students, and staff involved in medicine, dentistry, and medical rehabilitation.

Carried out under the direction of Professor Mickey Wener, the display—or “course” as they like to call it—was held over two days in November. The planning was extensive, as was the promotion. Posters were hung, radio and television ads were produced, ads were placed in newspapers, and announcements were made in class—all in an effort to ensure a successful event.



Don't Be a Butt Head

A total of 26 students developed the displays and accompanying evidence-based fact sheets. Topics included:

- **DON'T BE A BUTTHEAD!** – Oral implications of tobacco use and information on how to quit.
- **YOU PIERCED WHAT?** – The risks involved with oral piercing and tattooing.
- **ORAL HEALTH FOR WOMEN** – Information on how hormones affect oral health.
- **BABY STEPS** – Information on early-childhood tooth decay and how can it be prevented.
- **BABY-FRIENDLY DENTAL PRODUCTS** – Information about eruption, teething, and product choices.
- **THE MOUTH-BODY LINK** – Information about the link between periodontal disease and a host of other diseases.
- **DENTAL 911** – Dental emergencies.
- **GET ON THE CAVITY-FREE BUS** – Helping children stay free of cavities.
- **THE ROAD TO DENTAL HEALTH** – An overview of the causes of dental disease.

According to Professor Wener, it was a positive and enriching experience for both the students and those who saw their efforts, one that according to their advertisements, will leave them smiling, talking, and laughing for a lifetime!

Lots of great ideas

Without exception, every entry was a great idea. Here are just a few of the Honourable Mentions:

Honouring a Pioneer: In Thunder Bay, Ontario, the city's first dental hygienist, Lynda McKeown, was honoured with an event, and a huge cake, at her office. Media coverage, which included newspaper articles and three radio interviews, was fantastic. (*Many of you know Lynda as the Past President and former Chair of the Canadian Dental Hygienists Association.* – Ed.)

Taking Your Work Home: In Mississauga, Ontario, Margit Juhasz recognized an opportunity right in her own condominium building. She booked the party room, set up displays, and gave floss and toothbrushes as well as great prizes out to the children. This is the second event she has held at her condominium and they have both been so successful, she plans to do it again next year.

Oooooohhh, Scary: In Whitby, Ontario, NDHW™ coincided with "Spooky Fun Nights" at Cullen Gardens and Miniature Village so the Durham Dental Hygiene Society decided to make the most of it. Children who visited the display received loot bags full of stickers and dental-health-related



Don't be a Butthead! Kristin Carter, Erin Fehr, Tana Kennett

goodies and were able to meet Wrigley's mascot, Barley Beaver. As well, teachers were given educational packages they could take back to the classroom.

Small, but Mighty: The Huron-Grey-Bruce Dental hygiene Component Society comprises just 45 members over a huge geographical area. But when those members put their minds to it ...

- They teamed up with the Durham Thundercats hockey team for a promotion in which children could bring an old toothbrush to the game and receive a new one in exchange.
- They received great media coverage after "adopting" a section of Highway 21 and pledging to keep it clean all year.
- They set up a display at Amabel-Sauble Community School emphasizing good oral health and the importance of mouth guards.
- Storefront displays were set up in various places outlining issues such as early-childhood tooth decay and the role of a dental hygienist.
- A display was set up as part of a health fair at St. George's Church in Owen Sound.

Without a doubt, this was our best National Dental Hygiene Week™ ever. There was some wonderful work carried out and we are pleased to showcase it. Maybe there is an idea here for you for NDHW™ 2002!

Congratulations to all the winners! 🎉

Poor Dentition Status Linked to Declining Health, Increased Mortality in Elderly

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Introduction – Tooth loss and poor dentition status can adversely affect chewing ability and nutrition and, thus, may have a substantial negative impact on systematic health. This prospective cohort study assessed the impact of dentition status on physical and mental health and mortality among institutionalized elderly.

Methods – The study included 1929 residents of 29 institutions for the elderly in 1 large Japanese city. The subjects' mean age at baseline interviews in 1988–1989 was 79.7 years. Six years later, follow-up interviews were conducted with 719 subjects. The relationship between dentition status, assessed by examination, and physical and mental outcomes was assessed.

Results – On bivariate analysis, subjects with worse dentition status at baseline had worse physical and mental impairment and higher mortality at follow-up. On multivariate analysis, edentulous subjects who did not use dentures had significantly greater declines in physical ability than subjects with 20 or more teeth, odds ratio 6.0. The mortality rate for these 2 groups was 63% versus 32%, respectively, odds ratio 1.8. The relationship between dentition status and mental impairment was not significant in the multivariate model.

Conclusions – This study of institutionalized elderly shows a strong relationship between poor dentition status and deteriorating physical health and mortality. The association is particularly strong for edentulous subjects who do not wear dentures.

Clinical Significance – For elderly people, maintaining good dental status or denture use seems an important factor in promoting good health and a longer life expectancy. This will be an increasingly important consideration with the aging of the population.

Shimazaki Y, Soh I, Saito T, et al : Influence of dentition status on physical disability, mental impairment, and mortality in institutionalized elderly people. *J Dents Res* 80: 340–345, 2001

Reprints available from Y Shimazaki, Dept. of Preventive Dentistry, Kyushu Univ Faculty of Dent Science, 3-1-1 Maidashi, Higashi-Ku, Fukuoka 812-8582, Japan; e-mail: shimadha@mbox.nc.kyushuu.ac.jp

Probing Carries High Rate of Bacteremia in Patients with Periodontitis

Introduction – In patients with congenital or acquired endothelial defects or cardiovascular prostheses, bacteremia caused by procedures can lead to infective endocarditis. Periodontal scaling, surgery, and other procedures are known to cause transient bacteremia, but it is unknown whether periodontal probing can do so as well. The ability of full-mouth periodontal probing to cause bacteremia was assessed in patients with periodontitis or gingivitis.

Method – The study included 20 patients with adult periodontitis and 20 with chronic gingivitis. All the patients underwent periodontal probing, including measurement of pocket depth at 6 points around each tooth. After probing, a venous blood sample was obtained for aerobic and anaerobic culture. Culture bottles with positive results underwent subculture to identify the bacterial genus involved.

Findings – Probing-related bacteremia was observed in 40% of the periodontitis group and 20% of the gingivitis group. The most commonly isolated organisms in both groups were streptococci. On univariate logistic regression, bacteremia was about 6-fold more likely in the periodontitis group compared with

the gingivitis group. Bacteremia was also significantly related to bleeding on probing and mean probing depth per tooth, but not to patient age, number of teeth probed, smoking status, plaque index, or total probing depth.

Discussion – Periodontal probing may be associated with bacteremia, particularly in patients with untreated periodontal disease. In patients with risk factors for infective endocarditis, radiographs may be considered to identify periodontal disease before probing is performed. If periodontitis is present, these patients should receive antibiotic prophylaxis before probing.

Clinical Significance – The high rate of probing-associated bacteremia in these periodontitis patients is comparable to that reported in studies of scaling and other procedures.

Daly CG, Mitchell DH, Highfield JE: Bacteremia due to periodontal probing: a clinical and microbiological investigation. *J Periodontol* 72: 210–214, 2001

Reprints available from CG Daly, Faculty of Dentistry, United Dent Hosp, 2 Chambers St, Surry Hills, NSW 2010 Australia; e-mail: cdaly@dentistry.usyd.edu.au

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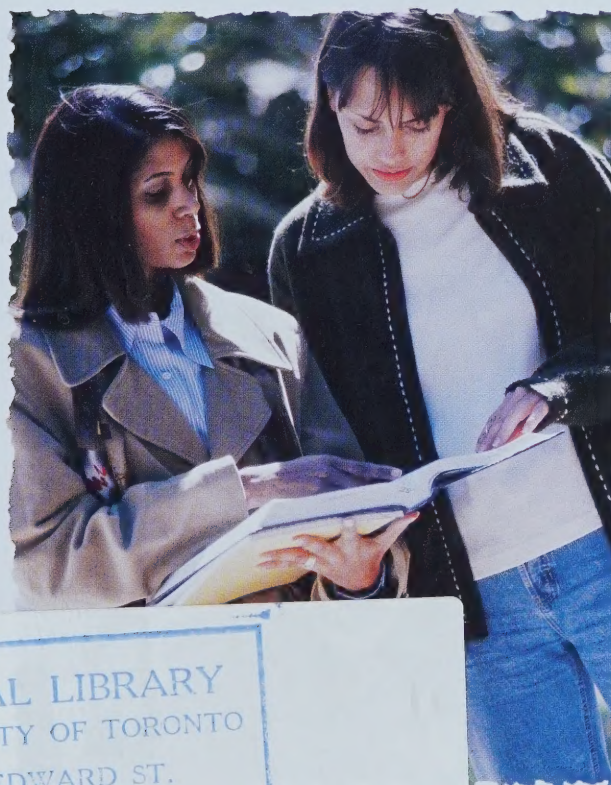
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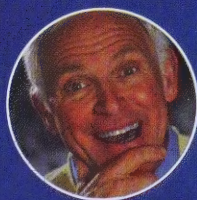


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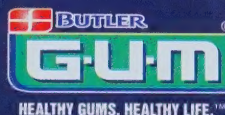
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PRACTICAL EXPERIENCE VERSUS ACCELERATED LEARNING

BY BARBARA GIBB, RDH

Each time I write the year "2002," I realize that the 2005 date for the CDHA position statement on baccalaureate education is drawing nearer and nearer ...

At last September's CDHA convention in Mississauga, I had the privilege of attending the Dental Hygiene Educators Canada (DHEC) workshop. I will admit that I felt a little hesitant about being the "odd person out" in a room full of educators. You see, I am neither an educator nor do I have a degree—I am very much a wet glove dental hygienist. In the group at the workshop, I recognized names and faces of dental hygienists who are and have been leaders in the profession. They are firmly committed to the belief that degree education is an important part of the evolution the dental hygiene profession must make to provide effective care for the Canadian public in this changing world.

One question surfaces frequently: "Will I be perceived as less qualified because I do not have a degree?" I do not think so. Let me explain why. Most dental hygienists read the journals and attend numerous professional development forums to stay up-to-date with current research and theories. At conferences, in addition to the lectures and workshops, they visit the commercial exhibits to learn about new products and equipment. Experience gained through years of practice contributes many abilities and much knowledge. Dental hygienists learn valuable communication skills through their daily contact with clients, educating and motivating them according to their individual needs. A career in dental hygiene, access to current literature and research, sharing ideas with different employers and colleagues, and providing care for thousands of clients have all added to our knowledge base, and to our critical-thinking, problem-solving and decision-making abilities. This form of knowledge acquisition is invaluable but it does take time.

As I see it, earning a degree is really a form of accelerated learning. The opportunities associated with degree programs will enable students to obtain the knowledge during their time at university that many of us have gained through years of practice. The new curriculum will have a broader base than the one I followed many years ago when I studied to be a dental hygienist. The new graduates will then begin the process of accumulating the experience that will solidify and expand their education. For receiving the degree is but the starting



L'EXPÉRIENCE PRATIQUE ET L'APPRENTISSAGE ACCÉLÉRÉ

PAR BARBARA GIBB, HDA

Chaque fois que j'écris l'année "2002", je réalise que la date de 2005, fixée pour l'énoncé de position de l'ACHD sur l'enseignement de niveau baccalauréat, s'approche de plus en plus...

Lors de la convention de l'ACHD, tenue à Mississauga en septembre dernier, j'ai eu le privilège d'assister à l'atelier des Éducateurs en hygiène dentaire du Canada (Dental Hygiene Educators Canada (DHEC)).

J'admettrai que je me sentais un peu hésitante devant le fait d'être la "personne qui ne cadrerait pas" dans une salle pleine d'enseignants. Vous voyez, je ne suis ni une éducatrice ni diplômée ; je suis tout à fait une hygiéniste dentaire qu'on dirait "venue des rangs". Dans le groupe de personnes présentes à l'atelier, je reconnaissais les noms et les visages d'hygiénistes dentaires qui sont et ont été des leaders de la profession. Elles sont fermement engagées dans la conviction que l'enseignement au niveau du diplôme est une partie importante de l'évolution que la profession de l'hygiène dentaire doit faire pour offrir des soins efficaces au public canadien dans ce monde en changement.

Une question fait souvent surgit souvent : "Vais-je être perçue comme moins qualifiée parce que je n'ai pas de diplôme ?" Je ne le pense pas. Permettez-moi de m'expliquer. La plupart des hygiénistes dentaires lisent les revues spécialisées et assistent à de nombreux forums de développement professionnel pour se tenir au fait de la recherche et des théories actuelles. Lors des conférences, en plus des cours et des ateliers, elles visitent les salons commerciaux pour se renseigner sur les nouveaux produits et le nouvel équipement. L'expérience acquise par des années de pratique leur apporte de nombreuses techniques et beaucoup de connaissances. Les hygiénistes dentaires acquièrent de précieuses compétences en matière de communication grâce à leur contact quotidien avec leurs clients, qu'elles éduquent et motivent selon leurs besoins individuels. Une carrière en hygiène dentaire, un accès à la littérature et à la recherche actuelles, le partage d'idées avec différents employeurs et collègues, et la prestation de soins à des milliers de clients, tout cela a ajouté à notre base de connaissances et à notre pensée critique, ainsi qu'à nos capacités de résolution de problèmes et de prise de décisions. Cette forme d'acquisition des connaissances n'a pas de prix, mais elle prend du temps.

"L'EXPÉRIENCE PRATIQUE ET L'APPRENTISSAGE ACCÉLÉRÉ"

... suite à la page 104

"PRACTICAL EXPERIENCE VERSUS ACCELERATED LEARNING"

... continued on page 104

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Please see our advertisement on page 80



FLOSS OR DIE!

BY MARILYN GOULDING, RDH, BSc, MOS
(SCIENTIFIC EDITOR)

What did you say? Floss or die? Come now—it may be difficult to entice your clients to practise better oral hygiene, but really, do we have to resort to such extreme fear tactics? A lack of flossing could not possibly cause any “real” harm outside a mild case of gingivitis ... could it? OK; maybe it paves the road to perio problems but what more?

Do a little math with me. If you have 28 teeth, all with inflamed periodontal ligament, that adds up to 75 cm² surface area. If you have lost even 50 per cent of clinical attachment, that would equal a wound of astronomical proportions (30–40 cm²), which is about one square foot of wounded flesh. And that would surely send us directly to the trauma centre!

People live with this kind of infection every day and we are only now beginning to recognize the impact it has on our overall systemic health. Oral infections have been shown to carry a high risk of blood vessel bacteremia, in direct correlation with an increase in gingival inflammation. What is the possible impact of such microbial invasion?

For years we acknowledged the rate of infective endocarditis (IE) for certain clients, those with a history of rheumatic fever, aortic stenosis, and some types of heart murmurs. We make sure they are pre-medicated appropriately as it is well established that IE is caused by oral pathogens, for example, *Strep sanguis*, a very common resident of dental plaque. Because we know the IE can be fatal, we religiously admonish our IE-subject clients to brush, floss, and rinse on a regular basis.

Infective endocarditis kills only a small percentage of North Americans each year. So let's consider how we as hygienists can also have an impact on North America's largest killer, atherosclerosis. Cardiovascular disease (CVD) with its resulting complications of coronary thrombosis, ischemic heart disease, and stroke kills more people on this continent every year than any other health risk we face.

However, its classical risk factors (hypertension, high cholesterol, and smoking) account for only about half of the new cases. What else is contributing to this scourge? Dental infections appear to be a likely culprit. In fact, they have been shown to increase the risk of CVD to the same degree as the more classical risk factors (age, smoking, diabetes, hypertension, and high cholesterol levels)!



“If you have lost even 50 per cent of clinical attachment, that would equal a wound of astronomical proportions”

This fact was met with some skepticism by physicians when the American Association of Periodontologists published its position paper “Periodontal Disease as a Potential Risk Factor for Systemic Diseases” in 1998 in their publication, *Journal of Periodontology*. Much debate ensued with the physicians and cardiologists declaring, “That can't be!” Since that time, even more evidence has been collected to substantiate the original N. Hanes findings. A 1999 Canadian study by Morrison et al., with data collection on 11,251 patients, showed a 7-fold greater risk

for CVD if periodontal disease was present. The contradictory findings are not holding up well to criticism, such as the Harvard 2000 study by Ridker et al. that showed no statistical association between CVD and perio. A closer look at the methodology shows that the perio was self-reported. How many of your clients can self report on their own perio? The infection would have to be fairly severe before the average lay person could detect it accurately.

New analytical methods, in place since the 1998 position paper publication, have been able to test bacterial DNA from endarterectomy samples in the carotid artery. These tests have been able to accurately identify several of the major perio pathogens, *Actinobacillus actinomycetemcomitans*, *Prevotella intermedia*, *Porphyromonas gingivalis*, and *Bacteroides forsythus*. How did they get there? They migrated into the blood supply directly from the infected sulcus. This is only the tip of the iceberg. Oral microbes have also been implicated in pneumonia and pneumonitis, chronic obstructive pulmonary disease, birth complications, and diabetes. Currently long-term intervention studies are ongoing. The position paper has been successful in drawing attention to the possibility that these connections do exist.

The jury is still out on the particulars; we may find it is more of a risk factor association rather than direct cause and effect. But that's what

we dental hygienists are all about—reducing risk factors.

We may not want to admonish our clients, Floss or die! But we can certainly be aware of the connections, seek out the most recent literature, become informed, and work this education into our oral health communication. How often do you get to save a life?

(For more information on the Floss or Die issue, be sure to attend the 2002 CDHA professional conference in Moncton, New Brunswick in September.) 

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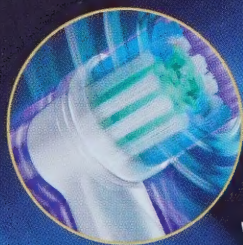
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EXECUTIVE DIRECTOR'S MESSAGE

IGNORANCE IS NOT BLISS...

BY SUSAN A. ZIEBARTH,
CDHA, EXECUTIVE DIRECTOR

Most ignorance is vincible ignorance. We don't know because we don't want to know.

—Aldous Huxley



Mr. Magoo is a cartoon character who walks and drives through life as someone who cannot see. Nothing bad ever happens to him but he wreaks havoc in his environment and for the other people in it. He is completely unaware of the chaos he creates. In my early university years, I had a roommate I often referred to as Mrs. Magoo. She could walk alone safely through a park at night with a rapist on the prowl; she could start a fire by turning on the element under a teapot that happened to be under a tea cozy. She was oblivious to the dangers in the world around her. I always thought that my roommate's ignorance of the world, unlike Mr. Magoo's, was a protective mechanism. It kept her world small enough so she suffered no discomfort; it was vincible. We all do this to some degree—"What you don't know won't hurt you," "Ignorance is bliss"—but the Magoos of the world excel at it.

In my university studies, I did a great deal of research on the elderly. Not once in all the surveys and interviews I carried out was the issue of oral health in seniors raised. My first experience of oral distress was when I worked with people with Parkinson disease. My consciousness was beginning to be raised. When we write policy documents and speak to governments about the issues of oral health, we speak of "marginalized populations." We tend to forget that these "populations" are not statistics; they are people and too many of them have horror stories they could tell if they were well enough. Over the past year, I have had sons and daughters contact me looking for help for their institutionalized parents. I have heard stories of neglect, passionately told, from dental hygienists working with the residential elderly. How do we make people want to know? It is ugly; it is scary; and we are all getting older. Isn't it easier to just bury our heads in the sand and hope somebody fixes it before we are in that position?

Nurses tell a visiting dental hygienist that a woman who has been living there for four years does not have any teeth. The dental hygienist discovers she *does* have teeth; her gums are just too swollen and infected to be able to see them. The caregivers tell the dental hygienist that their resident does not have a partial plate. The dental hygienist discovers she does and it has fused into the roof of her mouth. Dental hygienists recruit volunteers to brush residents' teeth because the staff doesn't have time—but the home cannot provide protective

"IGNORANCE IS NOT BLISS..."
... continued on page 104

MESSAGE DE LA DIRECTRICE GÉNÉRALE

L'IGNORANCE, CE N'EST PAS L'EUPHORIE...

PAR SUSAN A. ZIEBARTH
DIRECTRICE GÉNÉRALE DE L'ACHD

La plus grande partie de notre ignorance en est une qu'il est possible de vaincre. Nous ne savons pas parce que nous ne voulons pas savoir.

—Aldous Huxley

Mr. Magoo est un personnage des bandes dessinées qui marche et conduit dans la vie comme quelqu'un qui ne voit pas. Il ne lui arrive jamais rien de mal, mais il jette le

désordre dans son entourage et pour les autres qui s'y trouvent. Il est tout à fait inconscient du chaos dont il est l'auteur. Dans mes premières années à l'université, j'avais une coloc que j'appelais souvent Mrs. Magoo. Elle pouvait marcher seule en toute sécurité et traverser un parc la nuit alors qu'il y avait un violeur à l'affût ; elle pouvait mettre le feu en allumant l'élément sur lequel reposait une théière, recouverte par hasard d'un couvre-théière. Elle ne se rendait pas compte des dangers présents dans le monde qui l'entourait. J'ai toujours pensé que l'ignorance que ma coloc avait du monde, à la différence de celle de Mr. Magoo, était un mécanisme de protection. Ce mécanisme conservait à son monde une dimension assez petite pour lui éviter d'éprouver de la gêne ; il était possible de le vaincre. Nous faisons tous cela à un degré quelconque : "Ce que vous ne savez pas ne vous fait pas mal", "Bienheureux les ignorants", mais les Magoos de ce monde excellent à ce jeu.

Pendant mes études à l'université, j'ai fait beaucoup de recherche sur les aînés. Pas une seule fois dans toutes les enquêtes et les entrevues que j'ai faites la question de la santé buccale des aînés ne fut soulevée. Ma première expérience de la détresse buccale a eu lieu alors que je travaillais avec des personnes atteintes de la maladie de Parkinson. Je commençai à être sensibilisée à ces problèmes. Lorsque nous rédigeons des documents de politiques et que nous nous adressons aux gouvernements sur les questions relatives à la santé buccale, nous parlons de "populations marginalisées". Nous avons tendances à oublier que ces "populations" ne sont pas des statistiques ; elles sont des personnes, et trop nombreuses sont celles qui ont des histoires d'horreur qu'elles pourraient raconter si elles étaient assez bien pour le faire. Cette dernière année, des fils et des filles ont communiqué avec moi à la recherche d'aide pour leurs parents qui vivent dans des institutions. J'ai entendu des histoires de négligence, racontées avec passion, de la bouche même d'hygiénistes dentaires qui travaillent avec des aînés vivant en résidences. Comment faire pour que le public veuille savoir ? C'est laid ; c'est inquiétant ; et nous vieillissons tous

"L'IGNORANCE, CE N'EST PAS L'EUPHORIE..."
... suite à la page 107

Helen Bishop MacDonald, RD, MSc, FDC
Director, Nutrition, Dairy Farmers of Canada



NEWS FLASH: MOST TEENS GET LESS THAN THE RECOMMENDED THREE DAILY SERVINGS OF MILK PRODUCTS.^{1,2}

It's not impossible for children who avoid milk to obtain all the nutrients they need... but it sure is difficult.



And that's a real shame! Kids who miss out on the nutrients in milk are likely to be shortchanged in the healthy growth department compared to better nourished kids who make milk a regular part of their daily diet.

For example: calcium. The impact of insufficient milk consumption on calcium intake – and, by extension, tooth and bone health – is cause for alarm. And not just for kids: approximately 26% of adult calcium is banked during the two adolescent years of peak skeletal growth.³ Milk products provide about 60% of total calcium intake,^{1,4} with milk the greatest contributor at 45%.⁴ Unfortunately, those who drink less milk don't compensate by eating more cheese and yogurt.^{2,4} The fact is, research indicates that among children aged five to 17 years, only those who have milk at lunchtime meet recommended calcium intakes.⁵ Studies of

girls aged three to 15 years show that those who fracture their forearms drink less milk and have lower bone mineral density throughout the skeleton.⁶ As well as calcium, milk also contains protein to help promote healthy bone growth, phosphorus that combines with calcium in the crystals of bones and teeth, magnesium to enhance bone mineralization and vitamin A to improve bone remodelling.

But bones and teeth aren't the whole story. In addition to protein, calcium, phosphorus, magnesium and vitamin A, milk drinking also increases consumption of folate, riboflavin, and vitamins D and B₁₂.^{7,8} Deficiency of vitamin B₁₂, which is better absorbed from milk than from meat, fish or poultry – has been linked to diminished mental acuity.⁹ In fact, controlled studies of macrobiotic kids (who avoided milk/milk products in early childhood) demonstrated significantly impaired cognitive function in adolescence compared to those who followed a balanced diet that included milk.^{10,11}

Habits have changed...

And not for the better. While in 1945 Americans drank at least four times more milk than soft drinks, by 1997 they were drinking nearly two and half times more soft drinks than milk.¹² The bottom line? Substituting a glass of milk for one of soft drinks, rather than the reverse, could substantially improve children's health. To say nothing of the positive impact on their teeth of one less glass of liquid candy!

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LEARNING PREFERENCES OF PRACTISING DENTAL HYGIENISTS FOR POST-DIPLOMA BACCALAUREATE EDUCATION

BY SANDRA J. COBBAN, RDH, MDE¹
AND JOANNE B. CLOVIS, PhD²

KEYWORDS: dental hygienists, baccalaureate education, professional education, distance education, distance learning

ABSTRACT

Dental hygienists and the Canadian Dental Hygienists Association see a need for increased access to baccalaureate degree dental hygiene education in Canada. The purpose of this study was to identify the motivators and challenges that dental hygienists face as potential learners. The method used in the study was a survey of a stratified random sample of 668 members of the Canadian Dental Hygienists Association. There were 383 usable responses, a response rate of 57 per cent. Respondents were fairly evenly split between those who were, and were not, interested in pursuing a baccalaureate degree in dental hygiene. Those considering post-diploma baccalaureate degree education were most likely to be between the ages of 25 and 44, married, with one or more children, and with family and work-related commitments. Motivators to pursue post-diploma baccalaureate education included a desire for increased knowledge, personal satisfaction, increased skills, career mobility, and career advancement. Constraints or barriers were a need for flexibility in scheduling, and family and work obligations. Barriers or constraints had a stronger influence than the motivators, as evidenced by higher mean scores in their ratings of these factors. Respondents preferred to pursue baccalaureate education by correspondence, through computer-based communication/Internet, or by attending evening or weekend classes in their home communities. They were not interested in full-time study or weekend classes in a distant community. They had access to computers and e-mail and were comfortable using this technology. Current dental hygiene post-diploma degree programs are not accessible by the delivery methods that the responding dental hygienists indicated they prefer.

(français à la page suivante)



BACKGROUND

The needs of dental hygiene practice are changing as the health care delivery system and patient demographics change.¹⁻⁵ The population of Canada is aging and becoming more culturally diverse. This suggests health care professionals need to be prepared to address more complex health situations and to provide culturally sensitive health care. The Canadian Dental Hygienists Association's (CDHA) Policy Framework for Dental Hygiene Education in Canada has acknowledged the direct relationship between dental hygiene educational outcomes and dental hygiene practice.⁶ The current diploma study program may not provide adequate time for the curriculum content necessary to prepare dental hygienists for these changing practice requirements. The dental hygienist has been cited as a primary health care provider^{4, 7} who may work in different practice settings with different supervision requirements.⁸ Education to at least the baccalaureate level is necessary to prepare the dental hygiene practitioner for such roles.⁹ The CDHA has recognized the need for the dental hygiene profession to respond to changing practice environments by declaring its intention that a bac-

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SOMMAIRE

Pour les hygiénistes dentaires et l'Association canadienne des hygiénistes dentaires, le besoin d'accès à un enseignement de l'hygiène dentaire au niveau du baccalauréat au Canada se fait de plus en plus pressant. La présente étude a pour objet d'identifier les facteurs de motivation et les défis que les hygiénistes dentaires doivent affronter comme apprenants et apprenants en puissance. La méthode sur laquelle l'étude s'est basée a consisté en un sondage tenu auprès d'un échantillonage aléatoire stratifié de 688 membres de l'Association canadienne des hygiénistes dentaires. On a obtenu 383 réponses utilisables, soit un taux de réponse de 57 pour cent. Les répondantes étaient passablement également réparties entre celles qui étaient intéressées à poursuivre un diplôme au niveau du baccalauréat en hygiène dentaire et celles qui ne l'étaient pas. Celles qui considéraient une éducation supérieure au niveau du baccalauréat avaient le plus probablement entre 25 et 44 ans, étaient mariées, avec un ou plusieurs enfants, et avaient des engagements ayant rapport à la famille et au travail. Les facteurs de motivation à la poursuite d'études supérieures au niveau du baccalauréat comprenaient un désir d'amélioration des connaissances, la satisfaction personnelle, l'amélioration des techniques, la mobilité de carrière et l'avancement de carrière. Les obstacles ou les contraintes exerçaient une influence plus forte que les éléments de motivation, comme le démontrent les pointages moyens plus élevés accordés à ces facteurs. Les répondants préféraient poursuivre un enseignement de niveau baccalauréat par correspondance, au moyen de communications par ordinateur et par Internet ou en assistant à des classes du soir ou de fins de semaines dans leurs collectivités de résidence. Elles n'étaient pas intéressées à des études à plein temps ou à des cours de fin de semaine loin de chez elles. Elles avaient accès à des ordinateurs et au courriel, et étaient à l'aise avec l'utilisation de cette technologie. Les programmes d'études supérieures en hygiène dentaire ne sont pas accessibles par les méthodes de livraison que les hygiénistes dentaires ont indiqué préférer.

calate degree in dental hygiene be "the required credential for entry to dental hygiene practice for all new students commencing in the year 2005."¹⁰

Dental hygienists are interested in pursuing baccalaureate dental hygiene education.¹¹⁻¹⁴ However, opportunities are limited in Canada as there are only three programs currently awarding degree credentials. Some dental hygienists have opted to pursue this education in the United States.¹⁵ Howard found that the largest proportion of international students in U.S. dental hygiene programs were from Canada.¹⁶ Other professions, such as nursing, have been successful in increasing access to baccalaureate education through alternate delivery methods such as distance education.^{17, 18}

The literature on distance education programs for other health professions identifies many of the barriers and challenges faced by practising professionals when they seek to complete baccalaureate education.^{18, 19} These include work and family commitments, geographic location, time, and financial factors. Reitsch and Garvin,²⁰ DeBiase,²¹ and Waring¹⁴ found similar barriers and challenges for practising dental hygienists who were interested in pursuing baccalaureate education. Waring¹⁴ identified several motivating factors including career advancement, degree status, personal satisfaction, and admission into graduate school. She also identified program design factors that potential students considered important. These include flexibility in scheduling, geographic location, and accessibility to course work.

The purpose of this study was to identify the challenges Canadian dental hygienists face as potential learners in the pursuit of post-diploma baccalaureate dental hygiene education. A survey of practising dental hygienists who are currently active members of the CDHA was conducted to determine the challenges they face in attempting to access degree-completion education. Survey research methods were determined to be appropriate for this study as the purpose of survey research is "to describe specific characteristics of a large group of persons, objects, or institutions."²²

METHODS

In September 1999 when this study was conducted, there were 8,386 active members in the Canadian Dental Hygienists Association. In order to have a representative regional sample, the members were stratified by geographic region. Due to potential language barriers, and potential costs of translation services to overcome these barriers, the small number of Quebec members of the CDHA (119 members) were not included in the population to be sampled. The regional strata were British Columbia, Alberta, Ontario, Saskatchewan and Manitoba, and the Maritime provinces. There were no active CDHA members in either the Northwest Territories or the Yukon Territory at the time of the study. No attempt was made to ensure that the data accurately reflected the regional subgroup; the aim was to include a proportional representation from each stratum for the national sample.

Several factors were taken into consideration when determining the sample size. An alpha level of .05 was selected, as it provided acceptable precision for the intended uses of the data. A 55 per cent response rate was chosen, based on responses to recent mail-out survey studies of this population;^{23, 24} an oversampling was taken to adjust for non-response. Sample calculations resulted in a projected sample size of approximately 8 per cent of the total active population of the CDHA. Thus a random sample of 8 per cent of the active membership of each stratum was selected for inclusion in the survey. This resulted in a sample size of 670.

This study was delimited to active CDHA members, excluding those in Quebec. The study was also delimited to questions specifically about baccalaureate-level dental hygiene education. The study did not gather data on dental hygienists' interest in bachelor-degree-level study in other fields or in graduate education.

There are a number of limitations to this study design. The population that formed the basis of this study consisted of active members of the CDHA. Thus these findings may not be representative of practising dental hygienists who are not members of the national association. This study utilized survey research methods that have an inherent limitation in the potential for non-response bias.

During the design of this study, mechanisms were implemented to reduce the effect of potential bias due to non-response. Literature on non-response bias identifies two different potential types of non-response—unit non-response and item non-response.^{25, 26} Unit non-response refers to the unit of analysis, the individual respondent in this case. While there is some suggestion that choosing to respond initially may be associated with participation in an experimental treatment,²⁷ other studies have found that responders tended to have higher academic qualifications.^{25, 28} Barriball and While found, in a study of views and perception related to continuing professional education (CPE), that regular CPE attenders were more likely to respond.²⁵ There were no studies of non-response phenomena related to intent to participate in a post-diploma degree-completion program. While the literature on non-response illustrates the complex nature of non-response phenomena, all authors agree that careful attention to design considerations can reduce both unit non-response and item non-response,^{25-27, 29, 30} thus increasing confidence in the results.

The survey instrument used in this study was developed based on the barriers, accessibility issues, and motivating factors identified in previous studies. Two individuals with expertise in distance education reviewed a preliminary draft of this questionnaire in order to validate the content related to distance education. This survey questionnaire was subsequently reviewed by four practising dental hygienists to determine the clarity of the questions, its readability, and ease of completion. It was pre-tested on a convenience sample of 10 practising dental hygienists. Following the pre-test and prior to mailing, minor adjustments were made to the instrument to increase item response.

Mechanisms were implemented to increase unit response, including oversampling to ensure that a sufficient number of responses were received for confidence in the data, and the use of a reminder postcard with a design that appealed to dental hygienists.

Prior to beginning any research activities, ethics approval was obtained from the Athabasca University Ethics Committee. Every effort was made in the design and implementation of this study to ensure the confidentiality and anonymity of respondents and to ensure that no individual could potentially be offended by the publication of the results of this survey.

The staff at the Canadian Dental Hygienists Association used a customized software program to generate random mailing labels. Survey questionnaires were mailed on September 27, 1999 to 668 randomly sampled individuals from the five strata. A pre-addressed stamped envelope was included with each questionnaire to facilitate return of the responses. A follow-up reminder postcard was sent four weeks following the original mail-out to encourage non-responders to complete and forward their response.

Three hundred and eighty-three usable responses were received, for a response rate of 57 per cent. Two responses were received too late to be included in the data analysis. Data from 383 questionnaires were entered into the Statistical Package for the Social Sciences (SPSS) software program. The data were analyzed using descriptive statistics, including frequencies and measures of central tendency, as the primary purpose was to describe the characteristics of the population.

RESULTS

Demographic characteristics of respondents

The majority of respondents, 51 per cent, were from Ontario. Table 1 indicates the sample size and percentage of responses from each of the sampling regions.

SAMPLING REGION	SAMPLE SIZE	PER CENT RESPONSE	CUMULATIVE PERCENTAGE
Ontario	379	51.4	51.4
British Columbia	108	16.7	68.1
Alberta	93	16.2	84.3
Maritime provinces*	53	8.4	92.7
Manitoba, Saskatchewan	37	7.0	99.7
Province not identified		0.3	100.0
TOTAL	670	100.0	100.0

* New Brunswick, Newfoundland, Nova Scotia, Prince Edward Island

Table 1. Frequency and per cent of responses from each sampling region (n=383)

Of the 383 respondents, 55 per cent were graduates of college-based dental hygiene programs, and 42 per cent were graduates of university-based dental hygiene programs. The current annual cohort of graduating dental hygienists reflects a slightly different distribution from the different educational settings, with approximately 80 per cent of graduates coming from college-based programs (NDHCB, personal communication, unreferenced). Respondents reported ages ranging from 20 to 50+ years, with most between 25 and 49 years of age (see Table 2). The single largest group, 24 per cent, was aged 30–34 years. Nearly half of the respondents (48 per cent) graduated in the 10 years prior to the study.

AGE	FREQUENCY	PER CENT
20–24	12	3.2
25–29	69	18.0
30–34	92	24.0
35–39	60	15.7
40–44	77	20.1
45–49	40	10.4
50 and over	25	6.5
No response	8	2.1
TOTAL	383	100.0

Table 2. Frequency and per cent of respondents by age (n=383)

Two-thirds of respondents (68 per cent) resided in communities with populations of 50,000 or greater; 17 per cent of respondents resided in communities with populations of less than 10,000; and 14 per cent lived in communities with populations between 10,000 and 50,000. Nearly three-quarters of respondents (73 per cent) were married; 17 per cent were single or never married; 9 per cent were separated, divorced, or widowed; and 2 per cent did not respond to this question. Two hundred and thirty-six hygienists, or 62 per cent, reported having one or more children living at home.

More than half the respondents had completed some academic credit in addition to their basic dental hygiene diploma (see Table 3). Over 25 per cent had two or more years of academic credit in addition to their basic dental hygiene diploma.

AMOUNT OF CREDIT EARNED	FREQUENCY	PER CENT
None	178	46.5
Less than one year	35	9.1
One year	55	14.4
More than one year but fewer than two years	17	4.4
Two years	30	7.8
More than two years	67	17.5
No response	1	0.3
TOTAL	383	100.0

Table 3. Academic credit earned in addition to dental hygiene diploma (n=383)

The majority of respondents (86 per cent) indicated that the dental hygiene diploma was the highest education credential they had attained. Although over 25 per cent of respondents had two or more years of additional academic credit, only 14 per cent had a credential greater than a diploma (see Figure 1). No respondents had earned a master's degree in dental hygiene or a doctorate in any discipline.

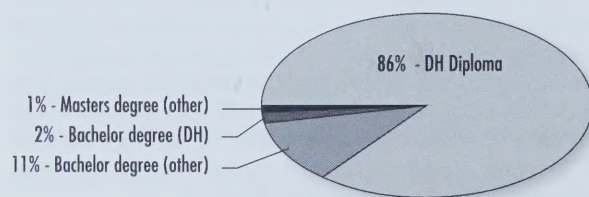


Figure 1: Level of education attained by respondents

Interest in dental hygiene baccalaureate degree and intent to enrol

Forty-five per cent of respondents indicated an interest in obtaining a baccalaureate degree in dental hygiene; 50 per cent were not interested; and 5 per cent of respondents wrote in "maybe" as a response to this question (see Figure 2).

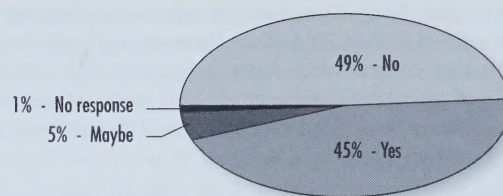


Figure 2: Interest in obtaining a baccalaureate degree in dental hygiene

Twenty-two per cent of respondents indicated that they were either "very likely to enrol" or "will enrol" in an accessible (i.e., distance education) post-diploma dental hygiene baccalaureate degree program; A larger percentage of respondents, 38 per cent, indicated they might "possibly enrol." However, 39 per cent of respondents indicated that they "would not enrol" or were "not likely to enrol" (see Table 4).

INTENT TO ENROL	FREQUENCY	PER CENT
Would not enrol	77	20.1
Not likely to enrol	72	18.8
Possibly enrol	146	38.1
Very likely to enrol	57	14.9
Will enrol	26	6.8
No response	5	1.3
TOTAL	383	100.0

Table 4. Intent to enrol in an accessible (i.e., distance education) dental hygiene post-diploma baccalaureate degree program by frequency and per cent of responses (n=383)

Several respondents wrote comments, providing additional information for the questions about interest and intent to enrol. Examples of these comments include, "Not at this time; perhaps in the future" and "I wouldn't contemplate BDS until my children were much older." Other comments suggested that respondents may have been interested in pursuing a baccalaureate degree at a previous time in their career, for example, "But may have been interested 15 years ago" and "If I were younger." Still others indicated that they already have a degree and would be more interested in pursuing graduate studies.

Motivating factors

Dental hygienists were motivated to seek a baccalaureate degree. The factors identified as "very important" by respondents were a desire for increased knowledge (45 per cent), personal satisfaction (44 per cent), increased skills (36 per cent), and career mobility (25 per cent). Factors such as employer pressure or peer pressure were considered "not at all important" by a great majority of respondents (74 per cent). Only 2 per cent added factors to the "Other, please specify" portion of this question, perhaps suggesting that the motivating factors identified were considered adequate and comprehensive. Examples of "other reasons" identified by respondents included, "May be necessary in future as profes-

sions advance and develop,” “Want to do more research,” and “Increased income.”

In order to rate the relative importance assigned by respondents to each of the motivating factors, numerical values were assigned to the categories of importance. These were “1” for “not at all important,” “2” for “not very important,” “3” for “somewhat important,” “4” for “important,” and “5” for “very important.” Table 5 illustrates the mean rating of motivating factors.

MOTIVATING FACTOR	MEAN SCORE	STANDARD DEVIATION
Desire for increased knowledge	4.11	1.09
Personal satisfaction	3.93	1.26
Desire for increased skills	3.91	1.15
Desire for career mobility	3.38	1.35
Desire for career advancement	3.18	1.37
Job security	2.75	1.44
Status of the degree	2.73	1.38
Gain entrance to graduate school	2.16	1.24
Employer pressure	1.43	0.90
Peer pressure	1.36	0.79
Other reasons*	2.21	1.72

* This is based on a small number of responses so is not included in the rank ordering.

Table 5. Mean rating of motivating factors

Cross-tabulations were performed to determine how those who intend to enrol perceive different motivating factors. Those who intend to enrol were more likely to perceive personal satisfaction as a “very important reason” for seeking bachelor-level dental hygiene education. Those who intend or are very likely to enrol also consider increased knowledge and increased skills as “very important” reasons for seeking bachelor-level dental hygiene education. Career advancement was considered “important” or “very important” by those more likely to enrol. Further cross-tabulations were performed to determine if the motivating factors were perceived differently by those who did not have children compared with those who did have children. Results of these cross-tabulations suggest that there is little difference in the perception of motivators by those with children and those without children.

Perceived constraints or barriers

Factors exist that may be perceived as constraints on or barriers to a dental hygienist’s ability to participate in university courses or programs for academic credit. Family obligations were rated as “very important” by 58 per cent of respondents. Other factors rated as “very important” were “flexibility in scheduling” by 51 per cent, “work responsibilities” by 45 per cent, “distance from campus” by 39 per cent, “time management” by 39 per cent, and “childcare concerns” by 38 per cent. Only 4 per cent added factors to the “other, please specify” portion of this question, perhaps suggesting that the constraints or barriers identified were considered adequate and comprehensive. Examples of “other” factors identified were “commitment to volunteer organizations (provincial dental hygiene association),” “health restrictions,” and “Internet access for support and instruction.”

The relative importance assigned to each of the constraints or barriers perceived by respondents was rated by assigning numerical values to the categories of importance. These were “1” for “not at all important,” “2” for “not very important,” “3” for “somewhat important,” “4” for “important,” and “5” for “very important” (see Table 6).

CONSTRAINT / BARRIER	MEAN SCORE	STANDARD DEVIATION
Flexibility in scheduling	4.20	1.06
Family obligations	4.01	1.44
Work responsibilities	3.99	1.19
Time management	3.89	1.17
Distance from campus	3.64	1.41
Length of program	3.60	1.19
Financial constraints	3.58	1.28
Communication with instructors	3.51	1.29
Belief in ability to succeed	3.34	1.45
Availability of financial help	3.27	1.35
Communication with other students	3.09	1.29
Childcare concerns	3.00	1.83
Transportation concerns	2.97	1.53
Restrictive entrance requirements	2.88	1.32
Other*	2.38	1.63

* This is based on a small number of responses so is not included in the rank ordering.

Table 6. Mean rating of constraints or barriers as perceived by respondents

Constraints and barriers were cross-tabulated with those who intend or are likely to enrol. “Work responsibilities” were considered “very important” by those possibly or intending to enrol, as were “family obligations.” “Restrictive entrance requirements” were likely to be considered “somewhat important” by those considering enrolling. “Flexibility in scheduling” was considered “important” or “very important” by those considering enrolling. “Communication with instructors” was likely to be considered “somewhat important,” “important,” or “very important” by those considering enrolling. The presence of children in the household was also cross-tabulated with the perception of constraints or barriers. While the mean ratings of importance of the “family obligations” and “childcare concerns” factors were higher for those with children than for those without, results of the cross-tabulations suggested little difference in the perception of other barriers by these two groups.

The mean ratings of perceived constraints and barriers, with a composite mean score of 3.50, were higher than the mean ratings of motivating factors, with a composite mean score of 2.89. This suggests that the inhibiting influence of perceived constraints and barriers may outweigh the influence of motivating factors.

Learning needs and preferences

Learning needs and preferences were investigated as they play an important role in potential development of post-diploma baccalaureate-degree-completion opportunities for this group. Distance from educational institutions, preferred

modes of course delivery, and access to and comfort with information technology suitable for educational purposes were investigated. The majority of respondents (82 per cent) live within 100 kilometres of a college or university that offers university-level credit courses. Nearly half of respondents (44 per cent) report living within 100 kilometres of an existing dental hygiene degree-completion program.

In response to the question, "How many hours per week would you be willing to devote to coursework and study?" respondents were evenly split between "0-5 hours" and "6-10 hours," at 42 per cent each. Only 11 per cent of respondents were willing to spend 11-20 hours at study with 2 per cent willing to spend more than 20 hours at study. Respondents were asked to select their preferred methods of study from a list. These methods were correspondence (71 per cent), computer-based communication/Internet (70 per cent), evening or weekend classes in the home community (67 per cent), or correspondence plus telephone conferencing (60 per cent). The least preferred methods of study were weekend classes in a distant community (13 per cent) and full-time study (7 per cent).

The preferred methods of study were cross-tabulated with those likely to enrol. Those more likely to enrol were willing to spend a higher number of hours studying. Those more likely to enrol preferred computer communication/Internet, correspondence study, correspondence study plus telephone conferencing, and evening/weekend classes in their home community. Those more likely to enrol were not willing to take courses by full-time study or by weekend classes in a distance community.

Access to media suitable for educational purposes was investigated to suggest modes of delivery for potential post-diploma baccalaureate degree opportunities. The majority of respondents had access to cable television (84 per cent), a videocassette recorder (94 per cent), a fax machine (66 per cent), a computer at home (74 per cent), and a computer at work (55 per cent). A majority of dental hygienist respondents reported that they felt comfortable using the computer (64 per cent). A majority of respondents had Internet access at home (59 per cent). Similarly, 55 per cent reported having e-mail at home, and a majority of respondents (58 per cent) reported they were comfortable using e-mail. A number of comments were added near the questions about Internet access and e-mail, suggesting that respondents were considering acquiring this in the near future. Examples of such comments were, "but will have soon" and "but soon to have."

While access to communication technology is an important factor to consider, discomfort with its use may place an additional constraint on the learner. Questions were asked about the level of comfort using computers and e-mail. The majority of respondents reported comfort using both computers (64 per cent) and e-mail (58 per cent). Cross-tabulations were performed on the learning preference variables with the variable "intent to enrol." Those who were more likely to enrol were also more likely to have a computer in the home and to be comfortable using it. They were also more likely to be comfortable using e-mail.

DISCUSSION

Canadian dental hygienists responding to this survey were fairly evenly split over whether or not they were interested in pursuing a baccalaureate degree in dental hygiene. Those considering pursuing post-diploma baccalaureate degree education were most likely to be between the ages of 25 and 44, married, with one or more children, with family and work-related commitments. Most had a diploma in dental hygiene and some education beyond the diploma. Some with a bachelor's degree in another field were also interested in pursuing a baccalaureate degree in dental hygiene. Most had graduated within the previous decade and live in communities with a population of 50,000 or greater.

Efforts were made by the author to obtain demographic data from the CDHA to attempt to compare characteristics of responders and non-responders. However, this data was not available in a format that would enable comparison. Many studies have been done to examine the reasons non-respondents elect not to participate in survey research and to determine if their characteristics differ sufficiently from respondents so that the validity of the results is compromised.^{25-27, 30-32} The authors were all in agreement that failure to invest the time needed to maximize the quantity and quality of information obtained could have potential for bias. Mechanisms implemented to maximize unit and item response increased confidence in the results obtained in this study.

Dental hygienists were motivated to pursue post-diploma baccalaureate education by a desire for increased knowledge, personal satisfaction, increased skills, career mobility, and career advancement. One factor mentioned in previous literature¹⁴ as a reason why dental hygienists would seek bachelor-level dental hygiene education—"to gain entrance to graduate school"—was not rated as highly by the respondents to this study.

Dental hygienists were constrained by a need for flexibility in scheduling, family obligations, work responsibilities, time management concerns, and the distance from campus. Dental hygienists perceived the barriers or constraints to have a stronger influence than the motivators, as evidenced by higher mean scores in their ratings of these factors. An American Association of Dental Schools task force report³³ found that fewer than 25 per cent of dental hygiene programs offered innovation in their curricular design, despite this need for flexibility.

Dental hygienists' preferred methods of study for baccalaureate degree education were correspondence study, computer-based communication/Internet, evening or weekend classes in their home community, and correspondence study plus telephone conferencing. Those more likely to enrol were willing to devote at least 6-10 hours per week to their studies. They have access to videocassette recorders, cable television, computers at home, fax machines, the Internet at home, and electronic mail or e-mail at home. This group reported they were comfortable using computers and e-mail.

Many dental hygienists responding to this survey were interested in pursuing post-diploma baccalaureate degree dental hygiene education but require flexibility in scheduling to accommodate their family obligations and work commit-

ments. Courses should be available by alternate delivery methods, specifically correspondence and/or computer-based communication/Internet. The curriculum should provide for specialization so that students can pursue areas of interest and graduates can achieve career mobility and advancement. Provision to accept transfer credit should be part of a program so students can have the opportunity to obtain educational credits in their home community and credit for other courses that may not be available at the host institution. Articulation agreements may reduce the number of credits required for the degree completion and should reduce administrative barriers to admission.^{6, 9, 34}

CONCLUSIONS

In this survey, dental hygienists perceived constraints or barriers to access to baccalaureate education as greater than motivating factors. This suggests a need to provide greater access to post-diploma baccalaureate education; dental hygienists' preferred learning methods indicate that distance delivery methods can reduce these barriers.

The primary entry-to-practice model for dental hygiene education in Canada is the diploma, and the majority of diploma graduates come from college rather than university programs. In Canada to date, specific formal articulation agreements between dental hygiene diploma programs and dental hygiene baccalaureate degree programs are not in place, despite the CDHA's Policy Framework for Dental Hygiene Education in Canada supporting the need for such agreements.⁶ Dental hygiene diploma programs at some Canadian universities and colleges require a pre-professional year of 30 semester credit hours. Any post-diploma baccalaureate degree models should provide some form of recognition for this additional junior level education through articulation agreements.

This study found that over 25 per cent of responding dental hygienists have two or more years of university-level academic credit in addition to their basic dental hygiene education, yet only 14 per cent hold a credential greater than a diploma. These findings support Mescher's contention that dental hygienists do not have academic credentials that are consistent with their length of studies.³⁵ Currently five dental hygiene programs in Canada require a pre-professional year of studies. Whether a diploma is an appropriate credential for this length of study is questionable. Comparisons with other professional baccalaureate programs suggest that Canadian dental hygienists are not given adequate recognition for their current level of education.³⁶

Over a decade ago, Waring found strong support among dental hygienists for an external post-diploma baccalaureate degree.¹³ Few such programs, however, have come into existence. Accessible distance delivery programs for post-diploma baccalaureate degrees in other health professions, most prominently nursing,^{17, 18} have become readily available in Canada and meet needs similar to those identified in this study. Reitsch and Garvin suggest that research of the target market, such as this study, must be done prior to the design of new dental hygiene degree programs.²⁰ Waring also noted that, "For external degree completion programs to succeed in terms of adequate participation, program requirements and courses should match reasons for participation" (page 84).¹³

Since the time this study was conducted, the CDHA has modified its Policy Framework for Dental Hygiene Education in Canada, indicating its intent that dental hygiene education programs must "offer a Baccalaureate degree in Dental Hygiene as the required credential for entry to dental hygiene practice for all new students commencing in the year 2005."¹⁰ Many existing dental hygiene diploma programs would encounter difficulty delivering baccalaureate-level education under their current structure. Consequently, articulation agreements with a degree-granting program that utilizes distance delivery methods could enable the CDHA, and the diploma program and its graduates, to achieve their goals.

RECOMMENDATIONS FOR FURTHER RESEARCH

This study was delimited to Canadian Dental Hygiene Association members. Some provinces require CDHA membership for licensure, so all hygienists in those provinces would have formed the population from which the sample was drawn. In other provinces, most notably Quebec, membership is voluntary and hygienists choosing membership in CDHA may have different characteristics from those who are not members. These findings may not be representative of those who do not choose to become members of the CDHA and further study is necessary to determine the learning preferences of those Canadian dental hygienists who are not members of the CDHA.

This study was also delimited to questions about baccalaureate-level dental hygiene education and did not gather data on interest in other fields of degree-level education that have appeal for dental hygienists. Some respondents volunteered comments that they were interested in other fields of study, suggesting the potential need for research in this area. This study also did not gather data on graduate education that dental hygienists might be interested in. Some respondents who indicated they already had a degree commented that they were interested in distance education opportunities for graduate-level education. This suggests the need for research in this area.

The most salient finding of this study is that those respondents who wished to complete baccalaureate requirements perceived the constraints and barriers to be greater than the motivating factors. After opportunities have been created for a post-diploma baccalaureate dental hygiene degree by alternate delivery methods, it would be relevant to study this population again to determine if the increased access to education reduces the perception of barriers.

RECOMMENDATIONS FOR DENTAL HYGIENE EDUCATION IN CANADA

Among dental hygienists who wish to complete a baccalaureate degree, the constraints or barriers to access to baccalaureate education were perceived as greater than motivating factors. This suggests a need to provide greater access to post-diploma baccalaureate education. Dental hygienists' preferred learning methods indicate that alternate and distance delivery methods can reduce these barriers. The following recommen-

dations for dental hygiene education in Canada are offered for consideration.

1. Post-diploma baccalaureate dental hygiene degree programs should increase access by providing courses leading to a degree credential via correspondence, with or without telephone conferences, and computer-based communication/ Internet.
2. Post-diploma baccalaureate degree programs need to be structured to accommodate advance credit, letters of permission, or other forms of recognition of credits to permit dental hygienists to take evening or weekend courses in their home community.
3. Canadian baccalaureate dental hygiene degree programs should be encouraged to modify their current program structure and transfer credit arrangements to provide sufficient recognition for the amount and level of academic preparation of diploma dental hygienists.
4. Baccalaureate dental hygiene degree programs in Canada should pursue formal articulation agreements with diploma dental hygiene programs to reduce administrative barriers to admission and provide adequate recognition of current education.
5. Baccalaureate dental hygiene degree education in Canada can meet documented needs of potential candidates for flexibility and access by alternate delivery of educational requirements. Educational institutions capable of meeting these needs should be encouraged to offer post-diploma baccalaureate dental hygiene degrees for these candidates.

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ORAL HYGIENE AND INSTITUTIONALIZED ELDERS

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KEYWORDS: long-term care, elderly, oral hygiene, oral health education programs

ABSTRACT

The oral hygiene of institutionalized elders is poor. This population exhibits an increased risk of oral infections such as periodontal disease, caries, inflammatory mucosal disorders, and denture-related problems. Poor oral health has been associated with systemic infections, such as respiratory infections, and nutritional inadequacies. Thus the maintenance of oral health among institutionalized elders is of significant value as it has an impact on general health and quality of life. Considerable literature, however, indicates that institutionalized elders have limited access to professional oral health care services. As well, the primary caregivers, the care aides, face many barriers to providing daily oral hygiene, barriers such as time constraints and limited training in oral hygiene practices.

Oral hygiene in-service training programs provided by a dental hygienist can raise the profile of oral health within the institution, support the integration of oral health care into the overall care of residents, and provide caregivers with an opportunity to be educated about daily mouth care. Dental hygienists have the education and skills that enable them to identify the oral care needs of the residents and to act as consultants for oral health policy, procedure, and program development within institutions.

(français à la page suivante)

INTRODUCTION

The Canadian population is aging. People are not only living longer but older adults are making up an increasing percentage of the population. In 1961, individuals aged 65 and older comprised 7 per cent of the Canadian population, but by 1999 this figure had risen to 11.6 per cent or 3.2 million people.¹ By the year 2021, individuals aged 65 and older will comprise approximately 16 per cent of the total population. It is also expected that the proportion of individuals 85 years of age and older will rise at least threefold during the same period.¹



The increasing senior population will create a number of challenges for society and for dental and medical professionals. Elderly individuals, with a combination of normal physiologic aging, higher incidences of chronic disease, and multiple effects of medications, are complex patients.² Many of the systemic illnesses experienced by the elderly may be affected by oral disease.^{3,4}

Edentulism rates are expected to decrease due to the use of fluorides, better dental care, and heightened dental awareness.^{5,6} As a result, dental professionals will be seeing more elders with an increased need for a full range of dental services.⁷ In an attempt to provide the most complete care for these patients, the dentist and dental hygienist should be aware of not only the patient's dental needs and how they can be met, but also how the patient's general medical health may affect the provision of this care.²

Approximately 10 per cent of Canadians aged 65 and over are residents of long-term care institutions.⁸ Long-term care (LTC) provides a range of services that addresses the health, personal care, and social needs of individuals who lack some degree of self-care ability.⁹ The majority of institutionalized elders are dependent on caregivers to help manage their daily oral hygiene.^{2,10} However, daily oral hygiene, essential for maintaining oral health, is severely compromised in the institutionalized setting.¹¹ One reason for this may be that nurses, faced with the many conflicting priorities in LTC, feel uncertain about prioritizing the demands of oral hygiene.¹² Furthermore, residents feel frustrated by this neglect,¹³ and care aides would benefit from education on oral hygiene.¹⁴

SOMMAIRE

Chez les aînés qui sont dans les institutions, l'hygiène buccale est de piètre qualité. Cette population montre un plus grand risque d'infections buccales comme les maladies parodontales, les caries, les désordres inflammatoires des muqueuses et les problèmes liés à la dentition. La mauvaise santé buccale a été associée aux infections systémiques, comme les infections respiratoires et les carences nutritionnelles. Ainsi, le maintien de la santé buccale chez les aînés en institutions est très important à cause de l'impact qu'il a sur la santé générale et sur la qualité de vie. Une importante littérature indique toutefois que les aînés en institutions ont un accès limité aux services professionnels de soins de santé buccale. Les dispensateurs de soins de première ligne, les aides de soins, font également face à de nombreux obstacles pour dispenser une hygiène buccale quotidienne, comme les contraintes de temps et un manque de formation dans les pratiques d'hygiène buccale.

Les programmes de formation en hygiène dentaire offerts sur le terrain par l'hygiéniste dentaire peuvent relever le profil de la santé buccale dans l'institution, soutenir l'intégration des soins de santé buccale à l'ensemble des soins des résidents, et offrir aux dispensateurs de soins l'occasion de recevoir un enseignement sur les soins quotidiens de la bouche. Les hygiénistes dentaires possèdent les connaissances et les compétences qui leur permettent d'identifier les besoins des résidents en matière de santé buccale et d'agir comme conseillères pour le développement de politiques, de procédures et de programmes de santé buccale dans les institutions.

Many institutionalized elders have oral diseases and conditions, much of which goes untreated.^{15,16} Treating these patients is an ongoing challenge; clinicians may be faced with potential barriers to providing care such as serious medical concerns, physical disabilities, mental challenges, and socioeconomic issues.¹⁷⁻¹⁹

This paper reviews the literature on oral hygiene in the institutionalized setting. A review of Medline for the years 1964-2000, with particular emphasis on literature published in the last decade, was used. The interrelationships between oral health, general health, and nutrition will be explored. As well, recommendations will be made concerning daily oral hygiene in the residential care setting, with special focus on oral care programs, and the role of dental hygienists in this setting.

ORAL HEALTH AND GENERAL HEALTH

The association between poor oral health and poor general health is not always made. The elderly make up a population at considerable risk for oral infections such as periodontal disease and caries.^{5,7,20} The higher incidence and greater severity of oral infection among institutionalized elders results from greatly elevated levels of pathogenic microorganisms in the oral cavity and oropharyngeal fluids.²¹ Unchecked oral

diseases in an older person can have systemic implications.¹⁷ Institutionalized elders experience a high rate of systemic infection, respiratory infection being the most common.²²⁻²⁵ This is compounded by an age-associated decline in resistance to infection that makes the elderly more vulnerable to respiratory illnesses.^{21,26} Institutionalized elders who exhibit poor oral hygiene may have a greater risk of oral colonization of potential respiratory pathogens that may be aspirated into the lower respiratory tract where they can multiply and cause infection.^{27,28} Improving oral hygiene among institutionalized elders may decrease oropharyngeal colonization by microorganisms that may be aspirated, thereby reducing the risk of respiratory infections.²⁷

ORAL HEALTH AND NUTRITION

Poor oral health places an individual at higher risk for nutritional deficiency.²⁹⁻³¹ Frail elders with poor teeth take little pleasure in eating a diet that consists primarily soft, puréed, or mashed foods.³² This can result in self-imposed restrictions in food selection that can in turn contribute to a low intake of essential nutrients. This leads to a state of under-nutrition.^{31,33} A wide range of potential under-nutrition of nursing home residents has been reported.^{31,34} Poor nutrition is a factor in xerostomia and age-associated physiological changes that affect digestion, absorption, and taste perception.³⁴ This has a negative impact on food selection and appetite.³⁵ Xerostomia, which affects about 20 per cent of elders, has a negative effect on appetite and oral comfort.³⁶ Xerostomia affects the ability to chew and form a food bolus. This leads to avoidance of certain foods, resulting in nutritional inadequacies.^{35,37}

Age-associated gastrointestinal changes affect the digestion, absorption, and metabolism of food.^{38,39} Age-associated changes in olfaction and taste can influence food selection among the elderly. Atrophy of olfactory bulb receptors decreases an individual's ability to smell,³⁹ resulting in a decline in taste perception.⁴⁰ As a result, elders have a diminished appetite, food becomes less appealing, and there is potential for under-nutrition.³⁹

There is some evidence that masticatory efficiency is associated with nutritional status.⁴¹ Dentate individuals have significantly better chewing efficiency than denture wearers.⁴²⁻⁴⁴ With a decreased chewing ability, most edentulous people prefer to consume more soft processed foods rich in carbohydrates and saturated fats.^{6,45-47} Most of these soft, easy-to-chew foods contain a lower nutrient density, placing the individual at risk for nutritional inadequacies⁴⁸ and dental caries.⁵

Improving oral hygiene and maintaining dentition should positively affect an elderly individual's ability to chew a wide variety of foods. This may lead to a greater intake of essential nutrients and improvement in nutritional status and in turn positively affect overall health.

PERIODONTAL DISEASE AND CARIES

Aging itself does not cause periodontitis.⁴⁹⁻⁵² Rather, decreased physiological capacity due to aging affects an elderly individual's ability to deal with this infection.⁵³⁻⁵⁵

There is no evidence that susceptibility to periodontal destruction increases with age, especially when good oral hygiene is maintained.^{55,56} However, minimal access to dental care, compounded by poor oral hygiene practices, places the institutionalized elderly at high risk for the development of periodontal disease.^{53,55}

Dental caries are also a substantial problem for the institutionalized elderly since consumption of refined carbohydrates, particularly sucrose, is commonplace in LTC facilities.^{5,9,57} A comparison of dietary habits, nutritional status, and oral health was made between 753 elderly who were living independently and 202 institutionalized elderly aged 65 or older. The frequency of sugar intake was much higher in the institutionalized group, a mean of 7.9 intakes daily versus 5.1.⁵⁸ Caries is the major cause of tooth loss in all age groups.⁵ However, caries in the elderly usually occur on root surfaces due to gingival recession exposing root surface area, medications with xerostomic side effects, and poor oral hygiene.^{11,59,60} Longitudinal studies have revealed that coronal and root caries infect, on average, over half of the institutionalized elders and close to one-third of the independent dentate elders.⁵⁶

Prevention of dental caries among institutionalized elders is far more cost-effective than the provision of dental treatment.⁵ Preventive strategies to help reduce the incidence of caries, and possible subsequent tooth loss, should include dietary control of refined carbohydrates, improved oral hygiene practices, and regular applications of remineralizing and antimicrobial agents.⁵ Fluoride is the only chemical agent available that is capable of remineralizing teeth and creating surface resistance to demineralization.^{61,62} Fluoride is available in various formulations and can be applied as a rinse, gel, or varnish.^{63,64} Concentrated fluoride varnish applied every three to six months to exposed root surfaces decreases the development of root caries significantly.^{65,66} Chlorhexidine, an antimicrobial agent, has also been shown to inhibit the incidence of caries when applied as a varnish to exposed root surfaces.^{64,67} A 1% chlorhexidine gel administered over a 12-day period for 10 treatments (2–4 ml of gel applied in custom trays for five minutes) has been shown to reduce the incidence of caries in institutionalized elders.⁶⁸ Combinations of chlorhexidine and fluoride may be even more effective in reducing the incidence of caries.⁶⁹

ORAL HYGIENE

Professional programs

The literature points to a need among the institutionalized elderly for greater access to oral health care services.^{60,70} Reports have demonstrated that up to 80 per cent of functionally dependent elderly have immediate dental treatment needs,^{10,71} with at least half of the subjects with natural teeth exhibiting caries.⁸ Numerous studies have shown perceived dental needs among institutionalized elderly to be lower than actual clinical need.^{10,72-74} However, the dental treatment available within LTC facilities is limited usually to emergency care.^{12,75,76} Hospital-based dental clinics and mobile dental services allow dentists and dental hygienists to provide oral health care to the institutionalized elderly.^{10,11} Assessment upon admission to the facility identifies oral health care

needs. Following identification of these needs, continuing dental care should be available for long-term care residents.

Daily oral hygiene by care aides

It is generally the care aides who are responsible for providing daily oral hygiene for the residents.^{72,77} However, care aides receive minimal if any education concerning oral hygiene.¹⁴ They also face many barriers to providing daily oral hygiene for residents including combative or non-compliant residents, time limitations, and lack of knowledge concerning oral hygiene techniques.^{9,11,17,73,74,76} Furthermore, a lack of perceived need for oral care and care aide attitudes towards oral care also significantly affect the provision of daily oral hygiene in the institutionalized setting.

In general, care aides believe that proper training could improve the quality of oral hygiene care that they provide for residents.¹⁴ Oral hygiene education programs can increase the knowledge among nursing and care aide staff, provide an understanding of daily mouth care, and help to improve the oral health of residents. To create a program that is appropriate to the needs of care staff, their role, attitudes, actions, and experiences must be understood.¹⁴

The most effective way of educating LTC staff is through in-service education programs that incorporate demonstrations, lectures, audiovisual aids, handouts, and group discussions.^{73,78} In-service education programs provided by a dental hygienist can raise the profile of oral health, support the integration of oral health care into overall care, and explain oral

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care procedures to a variety of caregivers.⁷³ Prior to and following in-service presentations, questionnaires should be distributed to the participants so they have the opportunity to comment on the usefulness of the information presented, presentation skills, and future topics of interest. This feedback can be used to assess the knowledge levels of participants, their attitudes towards oral care, and the retention of information following in-service presentations.

Oral health education programs must be structured differently for personnel with different levels of health care education. A study by Paulsson et al.⁷⁹ found that nurses, who were considered a "high level healthcare education" group, favoured theoretical aspects of an oral hygiene education program. Nursing assistants and care aides, who comprised a "low level healthcare education" group, favoured practical procedures. Thus it would seem beneficial to present theoretical information (such as disease information and prevention of diseases) to the nurses, and to present the more practical portion of the program (such as tooth brushing techniques) to the care aides who are more involved in the daily oral hygiene of the resident.

Many studies have concluded that educational programs alone, directed toward nursing and care aide staff, have not been effective.^{12,14,80,81} Kay and Locker⁸² concluded that dental health education intervention programs that focused on improving LTC staff's knowledge of and attitude toward the importance of daily oral care, resulted in consistently raised knowledge levels, but that the effect on attitudes tended to be short-lived. These conflicting results call attention to the need for further studies that can provide information about the value of oral hygiene programs.

Oral care aid products

Impaired manual dexterity, due to arthritis or stroke, makes it difficult for some LTC residents to manage their own daily oral hygiene, particularly using a manual toothbrush.⁷ Persons with functional disabilities have poorer oral hygiene plus higher rates and severity of periodontal disease and caries than healthier peers.^{83,84} Oral care practices may need to be adapted to the individual's needs after careful consideration of skill level and functional status. The elderly individual's physical range of motion, grip strength, ability to understand and follow directions, and current self-care techniques should be addressed.³⁹ For the institutionalized elderly, tooth brushing is preferred for the removal of plaque and debris from teeth and dentures as flossing may be complicated by issues of dexterity of the care provider or the resident.

Depending on the level of assistance required by a resident, the dental professional (or care provider) can make simple adaptations to oral hygiene aids such as enlarging the handle of a toothbrush to make it easier for arthritic patients to grasp.³⁹ This can be done by simply wrapping a face cloth around the handle and securing it with an elastic band. Also, several manufacturers, such as Butler, Oral-B, Pycopay, and Sensodyne, market toothbrushes that can be bent by hand to allow better angulation and access into the client's mouth.³⁹

Many older adults with poor dexterity and coordination could also benefit from using a power toothbrush, a device that can

also be easily manipulated by a caregiver. A study comparing the efficacy of a power toothbrush with that of a manual toothbrush among functionally dependent institutionalized elderly showed a 38 per cent plaque reduction with the power toothbrush compared with a 6 per cent reduction using the manual brush.⁸⁵ Witmyer et al.⁸⁶ also found significant reductions in plaque score and bleeding index with the use of the ultrasonic power toothbrush.

A ROLE FOR DENTAL HYGIENISTS

Dental hygienists play a key role in promoting oral health among the institutionalized elderly. The education and skills of dental hygienists enable them to act as consultants for procedure and program development, identify oral care needs of residents, develop individualized care plans, provide clinical hygiene treatment, make referrals to dentists, and implement facility oral health programs.^{10,60,87}

Oral hygiene programs for long-term care facilities

When developing an oral hygiene program for a LTC facility, the following must be considered:

- The program should be modeled differently for facility staff with high or low levels of oral health care education.
- Information on oral diseases and pathology, prevention of diseases, etc. should be directed primarily toward the nurses, who could transmit relevant information to care aides.
- Information on delivery of daily oral hygiene should be directed to both nurses and care aides, but the focus for this information should be on the care aides since they are primarily responsible for this task. For example, a video could help demonstrate the proper techniques for cleaning dentures, brushing and flossing teeth of functionally dependent residents, independent, uncooperative, aggressive and resistive, and unconscious residents.
- An informational manual should also be provided and should include: accompanying text for the visual information presented in the video, information on plaque (as it relates to the development of gingivitis, periodontal disease, and caries), xerostomia and increased risk of caries with dry mouth, management strategies for xerostomia, infection control, importance of denture labeling, role of diet (particularly in relation to the development of caries), diagrams or photographs for correct positioning of caregiver and resident during treatment, relevant intraoral and extraoral photographs, evaluation and comment section, a short quiz to facilitate retention of information and re-emphasize key points.
- Hands-on demonstrations with residents and role-playing would also be beneficial.

Nurses are an important component of a successful oral hygiene program. Nurses are best suited to regulate and enforce oral hygiene delivery by care aides. Communication should remain open between nurses and care aides to address

and resolve any oral hygiene issues. Care aides should feel comfortable expressing their opinions and potential barriers to providing care must be addressed.

A dental professional, such as a dental hygienist, may be the most qualified individual to deliver the in-service presentations and supervise the demonstrations and hands-on training with residents. Dental hygienists can also participate in care conferences where specific oral health concerns for each resident could be addressed and recommendations for improvements suggested. The hygienist should deliver in-service training on a regular basis to help ensure that appropriate standards of oral hygiene care are being met and to address concerns from staff and the residents themselves.

The success of an oral hygiene program requires an effective instructional program for facility staff, a staff commitment, and cooperation among all staff involved. Administrative support is essential in terms of prioritizing, funding, and implementation of the oral hygiene program itself. Funding should cover supplies such as toothbrushes, fluoridated toothpaste, alcohol-free mouthwash, aids for xerostomic conditions, denture containers and brushes, denture cleaners and labeling kits.

CONCLUSION

The elderly represent an increasing segment of the Canadian population. There is a rapidly expanding number of elders who take up residence in LTC facilities, many of them having poor oral hygiene. Plaque-related problems, particularly caries, are prevalent among this vulnerable segment of the population. Yet despite a widespread need for oral health care services, there exists a void in delivering treatment beyond the traditional confines of dental practice. Focus should therefore be placed on preventive strategies for oral hygiene care. The development and implementation of oral hygiene programs in LTC facilities can increase the knowledge and awareness among caregivers, residents, and their families of the importance of daily mouth care and subsequently help to improve the oral health status of the residents. In so doing, this would help reduce the incidence of oral infection that may lead to systemic infection and poor nutritional status. Improving oral hygiene among this age group would improve the general health and wellness of the individual, improve their quality of life, self-esteem, and relationships with others.

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ABSTRACTS FROM IADR'S JOURNAL OF DENTAL RESEARCH

The International Association of Dental Research (IADR) held its 80th general session on March 6-9, 2002, in San Diego. This annual meeting includes presentation of almost 2,000 new abstracts in all dental disciplines. Many of these well-conducted and original abstracts will develop into full papers. The abstracts themselves are published in a special issue of the IADR's *Journal of Dental Research*. The CDHA has been granted permission to re-print a selection of these abstracts in *Probe* (scientific issue). A cross-section of abstracts were chosen to address a range of issues from periodontology to smoking and HIV.

CARIES

1348 EARLY CHILDHOOD CARIES DIAGNOSTIC AGREEMENT BETWEEN DENTISTS AND HYGIENISTS

J. VÉRONNEAU, and P.J. ALLISON, McGill University, Canada

Objectives: Early childhood caries (ECC) remains a major problem in many parts of the world, with few effective public health preventive interventions being used to address this problem. As part of the preliminary work to develop such an intervention in Quebec, the aim of this study was to evaluate the degree of agreement between dentists and hygienists in diagnosing ECC among 12-24 month old children.

Methods: Five dentists and seven hygienists, working in 12 dentist/hygienist (D/H) pairs, examined a total of 390 children (i.e. an average of 32 children per pair) in community vaccination clinics using the D1-3 system to diagnose caries. All erupted teeth surfaces were examined using a head light, mirror and cotton gauze only. Each child was examined by both members of the D/H pairs, with each member of the D/H pairs being blind to the caries evaluation of the other. Evaluation of the degree of agreement in caries diagnoses within D/H pairs was performed through generation of a Kappa statistic (K). **Results:** K ranged from 0.96-0.99 for all surface observations for the 12 pairs with a mean K of 0.98. Among the 85 children (21.2%) diagnosed with caries, there were 289 lesions, the large majority of which were D1 lesions. The K for these lesions only ranged from 0.7-1.0 for the 12 D/H pairs, with a mean K of 0.86.

Conclusions: The results suggest a good level of agreement between dentists and hygienists in diagnosing caries amongst 12-24 month old children using minimal examination materials and in a non-dental office setting. This has important implications for public health interventions in which examinations for caries in this age group could be used. Supported by the Réseau de recherche en santé bucco-dentaire du Québec.

CARIES

1342 INTERPROXIMAL CONTACT POINTS AND APPROXIMAL CARIES IN POSTERIOR PRIMARY TEETH

S. SCHWARTZ¹, P.J. ALLISON², and G. JAMENSKY^{2, 1} McGill University Health Centre, Canada, ² McGill University, Canada

Objectives: Due to anatomical differences, the pattern of carious lesions in primary and secondary dentitions tends to be different. The study investigated the hypothesis that the risk of approximal caries in posterior primary teeth is higher when interproximal contact points are closed than when they are open. **Methods:** A cross-sectional study design was used with a sample of 286 children with no permanent dentition. Caries was assessed radiographically. The open/closed nature of contact points was assessed through resistance to dental floss. The dependent variable was the health status of the contact point (healthy, carious or restored). Contact points with a restoration were excluded from the analysis. Data concerning known risk factors and indicators for caries were also collected and controlled for through multiple logistic regression analysis. **Results:** There were consistent contact point status and health status patterns for the eight posterior contact points evaluated, with the most posterior contact points in each quadrant being closed more often and the distal surface of first deciduous molars being most commonly carious or restored. The odds ratios for caries associated with closed compared to open contact points were significantly raised (odds ratios range 2.7-18.3) for seven of the eight contact points evaluated. **Conclusions:** Within the limitations of the study design, this research strongly suggests that the risk for approximal caries in the posterior primary dentition is raised if contact points are closed compared to those that are open.

CARIES

4052 CARIES IN PRIMARY TEETH AND DEFECTS IN THEIR PERMANENT SUCCESSORS

C. ZHENG, and E.C.M. LO, The University of Hong Kong, China

Objective: To investigate the relationship between the presence of developmental defects on enamel (DDE) on the permanent teeth and the caries status of their predecessor primary teeth in a cohort of Chinese children. **Methods:** This study was conducted in a non-fluoridated area in Southern China. The sample was 288 children whose caries status of their primary teeth at age 3 to 7 years was recorded in a previous study. About 85% of these children had caries in their primary teeth and the mean dmfs score was around 10. Over 80% of the caries were untreated. A follow-up examination of the permanent teeth of these children was conducted in 2001 when they were 11-12 years olds. The examination was conducted in their school using mouth-mirrors, explorers and an intra-oral fibre-optic light. Clinical photographs of the anterior teeth were taken. Presence of DDE was determined by consensus of two trained dentists and recorded according to the modified DDE Index for each surface of the permanent incisors, canines and premolars. **Results:** 1,109 permanent teeth were examined in the first 66 children who were followed up. Overall, 16% of the teeth had one or more DDE. The vast majority of the defects were found on the buccal surfaces and about 80% of the defects were diffused opacities. DDE was found on 13% of the permanent teeth whose predecessor had no caries whereas 29% of the permanent teeth whose predecessor had caries at age 3 years had one or more DDE (Chi-square test: $df = 1108$, $p < 0.001$). It was also found that the earlier the primary teeth developed caries, higher the chance their successor permanent teeth developed enamel defects. **Conclusion:** The preliminary findings of this study showed that there was a relationship between caries in primary teeth and the presence of DDE in their permanent successors.

CARIES

522 OCCLUSAL CARIES DETECTION: CONVENTIONAL DIAGNOSIS VS LASER FLUORESCENCE SYSTEM

G. DONDI DAL'OROLOGIO, R. LORENZI, and M. ANSELM, University of Bologna, Italy

The sensitivity of diagnostic methods of recognizing early fissure lesions was around 60%. A new device, based on fluorescent system, showed a sensitivity >92%. **Objectives:** The study checked with the device the results of a clinical inspection. **Methods:** The study was carried out on 40 people, 18 males and 22 females, between 18 and 40, and on 85 teeth, 38 premolars and 47 molars, with uncertain fissure lesions. The study was done by three dentists with a good illumination, on a cleaned and an air-dried surface, probing with a smooth explorer. One operator (C) used a magnification loop (4.5x). The procedure was repeated in the same session by the same dentist, using the laser device (DIAGNOdent-Kavo). The level of significance was set at $P = 0.05$. **Results:** Operator (A) scored clinically as sound 13 teeth of 25, with laser 3 of 25, error 40%. Operator (B) scored clinically as sound 14 teeth of 28, with the laser 5 of 28, error 35%. Operator (C) scored as sound clinically 12 teeth of 32, with the laser 4 of 32, error 25%. The difference between clinical and instrumental diagnosis was statistically significant for any operator. **Conclusions:** The laser device showed a tremendous improvement in sensitivity in relation to the diagnosis of early occlusal lesions.

1053 USE OF COMBINED THERAPIES TO TREAT "REFRACTORY" PERIODONTITIS. I. CLINICAL

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Earlier studies indicated that conventional treatments diminished periodontal pathogen load comparably in successfully treated and "refractory" subjects. "Refractory" subjects may harbor more virulent pathogens, or be more susceptible to even low levels of these species. **Objectives:** To determine if combined periodontal therapies could further reduce periodontal pathogens leading to periodontal stability. **Methods:** 10 subjects were identified as "refractory" based on full mouth mean attachment loss and/or >3 sites with attachment loss >3 mm following SRP, periodontal surgery and systemic antibiotics. After baseline monitoring, subjects received SRP, locally delivered tetracycline at pockets >4 mm, systemically administered amoxicillin (500 mg, tid for 14 days) + metronidazole (250 mg, tid for 14 days) and professional removal of supragingival plaque every week for 3 months. Subjects were monitored every 3 months post-therapy for up to 2 years. Significance of changes in mean clinical parameters over time were evaluated using the Quade test. **Results:** Mean % of sites ($\pm$ SEM) with visible plaque from baseline to 18 months was 73 ± 5 , 53 ± 5 ($p < 0.01$); for gingival redness 57 ± 5 , 37 ± 4 ($p < 0.05$); BOP 31 ± 4 , 10 ± 2 ($p < 0.001$); suppuration 4.7 ± 2.0 , 0.2 ± 0.1 ($p < 0.001$); mean PD 3.52 ± 0.13 , 2.67 ± 0.09 ($p < 0.001$); mean AL 4.47 ± 0.38 , 3.90 ± 0.31 ($p < 0.001$). Results for 7 patients at 2 years post-therapy were more dramatic; for plaque 78 ± 5 , 36 ± 7 ($p < 0.01$); gingival redness 59 ± 7 , 35 ± 5 (NS); BOP 34 ± 5 , 10 ± 2 ($p < 0.01$); suppuration 5.3 ± 2.5 , 0.1 ± 0.1 ($p < 0.001$); mean PD 3.63 ± 0.14 , 2.66 ± 0.14 ($p < 0.001$); mean AL 4.5 ± 0.5 , 3.9 ± 0.4 ($p < 0.001$). All subjects showed mean reductions in BOP, suppuration and PD at 18 months and 9 of 10 subjects for AL, plaque and gingivitis. **Conclusions:** The combined therapy was successful in controlling disease progression in "refractory" periodontitis subjects for up to 2 years. Supported by NIDCR grants DE 12861, DE 13232.

PERIODONTOLOGY

1051 EFFICACY OF COMBINED PERIODONTAL THERAPIES. I. CLINICAL

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SRP alone or combined with either systemically administered metronidazole, repeated professional supragingival plaque removal or both improved clinical parameters 3 months post-therapy. The adjunctive therapies provided better clinical outcomes than SRP alone and the combination provided the best outcome. **Objectives:** To determine which type of subject received the greatest benefit from the different treatment protocols. **Methods:** 44 subjects with chronic periodontitis were measured at baseline for plaque, gingivitis, BOP, suppuration, pocket depth (PD) and attachment level at 6 sites per tooth. Subjects were randomly assigned to 4 treatment groups receiving SRP alone or combined with professional supragingival plaque removal weekly for 3 months (PC), 250 mg metronidazole tid for 14 days (MET) or both. The significance of changes at 3 months in clinical parameters among groups was sought using ANOVA. Regression analysis examined the association between mean baseline PD and mean PD change in the 4 groups. **Results:** Subjects with mean baseline PD > the entire group median showed greater mean PD reduction than subjects with shallower mean PD for SRP (-0.19 ± 0.07 mm, -1.0 ± 0.06 mm), MET (-0.55 ± 0.14 mm, -0.01 ± 0.13 mm), or MET & PC (-0.40 ± 0.11 mm, -0.19 ± 0.10 mm). In contrast, subjects receiving PC with mean baseline PD < the median exhibited greater PD reduction than subjects with deeper mean baseline PD (-0.34 ± 0.03 mm, -0.17 ± 0.07 mm). Regression analysis reinforced the distinction. PD reduction was greatest in subjects with the greatest mean baseline PD for the SRP group ($r = -0.54$, $p = 0.06$) or combined with MET ($r = -0.74$, $p = 0.03$) or MET plus PC ($r = -0.69$, $p = 0.01$). In the PC group, PD reduction was greatest in subjects with initially shallow mean PD ($r = 0.52$, $p = 0.08$). **Conclusions:** Effectiveness of adjunctive therapies differed depending on the clinical status of the subject. Combining adjunctive therapies provided benefit to virtually all subjects. Supported by NIDCR grant DE12108.

PERIODONTOLOGY

1553 DOES IBUPROFEN AFFECT BLEEDING DURING PERIODONTAL SURGERY?

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With the increasing prevalence of individuals taking Non Steroidal Anti-Inflammatory Drugs (NSAIDs), there is concern to what extent long-term low dose NSAIDs may affect bleeding during periodontal surgery. **Objectives:** This controlled double blind study was designed to measure the effect of low dose Ibuprofen present at peak plasma levels on intra-operative bleeding. **Methods:** Fifteen medically healthy patients (7 male and 8 female), having two sites requiring surgery participated in the study. The patients were instructed to take 400 mgs of ibuprofen 9, 5, and 1 hour prior to one of the surgeries and none before the other surgery. Standard bleeding time tests (Simplate) and Muhlemann papillary bleeding indices were taken at the initial consultation and prior to the first and second surgeries. The volume of aspirated blood was collected and measured in milliliters at 15, 30, 45, 60 and 95 minutes during each surgery. A paired t-test was used to determine statistical significance between the two surgeries. **Results:** 1) the mean bleeding time was 4.17 ± 0.91 minutes when ibuprofen was pre-administered compared to 3.8 ± 0.9 minutes without ibuprofen ($P < 0.01$); 2) intra-operative bleeding is significantly greater in patients who took Ibuprofen prior to surgery than those who did not (28.53 ± 13.74 vs 18.47 ± 8.98 mls; $P < 0.01$); 3) ibuprofen has its greatest effect on bleeding during the early and late stages of surgery, which correlates well with the operator's subjective perception of bleeding pattern; and 4) papillary bleeding did not show statistically significant difference between the two surgeries ($P > 0.05$). **Conclusion:** Ibuprofen increases bleeding significantly during periodontal surgery.

PERIODONTOLOGY

4072 ADJUNCTIVE SUBANTIMICROBIAL DOSE DOXYCYCLINE IN THE MANAGEMENT OF SEVERE PERIODONTITIS

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There is increasing evidence to support the hypothesis that an exaggerated host response to the accumulation of subgingival plaque is involved in the etiology and pathogenesis of the more aggressive forms of chronic periodontitis. Although many studies have used an adjunctive antimicrobial approach in non-surgical therapy, few studies have targeted the destructive aspects of the host response in selecting adjunctive, non-surgical treatment modalities for this form of disease. **Objectives:** this study was designed to test the hypothesis that modulation of the host response by the systemic administration of subantimicrobial dose doxycycline (SDD), a known inhibitor of matrix metalloproteinases, may have a beneficial adjunctive effect in the non-surgical management of severe periodontitis. **Methods:** thirty subjects <45 yrs of age with severe generalized periodontitis received either 4 episodes of full mouth supra- and subgingival debridement and OHI performed by a hygienist, plus 6 months of adjunctive SDD (20mg bid) or debridement plus placebo pill. Subjects were monitored at baseline, and at 1, 3, 5.25, and 8.25 months following the completion of the hygiene phase. **Results:** debridement plus SDD reduced deep pockets (>7mm at baseline) by an average of 3mm compared to 1.4mm for debridement plus placebo ($p < 0.05$). In the SDD group nearly 40% of 237 pockets >7mm were reduced by >3mm and 55% were reduced by at least 2mm. In addition, only 2 pockets deepened by >3mm in the SDD group versus 10 in the placebo group. **Conclusions:** the supplementation of hygienist delivered sub- and supra-gingival debridement with a host modulating agent, SDD, provides clinically and statistically significant benefits in the reduction of deep pockets in patients with severe, generalized periodontitis. In addition, adjunctive SDD was more effective than placebo in preventing further increases in pocket depth.

PERIODONTOLOGY

1712 PERIODONTAL ATTACHMENT LOSS, TOOTH LOSS AND CHD STATUS

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Objective: Some studies have shown positive associations between periodontal and heart diseases, while others have shown non-significant trends. The Atherosclerosis Risk in Communities Study, which conducted oral examinations from 1996-1999 on 6,796 ARIC participants aged 52-74 from four US communities, had previously reported significant associations between extent of attachment loss of 3+ mm (EAL) and ultrasound measures of carotid atherosclerosis, but the trends with prevalent CHD status were not significant. **Objective:** Since tooth loss (TL) could be a proxy indicator of a history of serious periodontitis, caries or other conditions, we sought to clarify the relationship between EAL, TL and CHD status. **Methods:** The distributions of EAL and TL were dichotomized at $\geq 10\%$ of sites (HighEAL) and > 16 missing teeth (HighTL) forming 4 groups; LowEAL&LowTL (LL); LowEAL&HighTL (LH); HighEAL&LowTL (HL); and HighEAL&HighTL (HH). **Results:** The mean percent of sites with EAL in each group was LL=3.8%; LH=4.8%; HL=28.7%; HH=48.9%. The HH group had significantly greater EAL than the other groups ($p < 0.0001$) and the LH and LL groups were not different ($p = 0.29$). The prevalence of CHD was LL=8.3%; LH=9.5%; HL=8.8%; HH=12.1%. The HH group had significantly more CHD than the LL and HL groups ($p < 0.003$), but not the LH group. The LH and LL groups were not different. In a multivariable logistic model, the HH group had greater odds of CHD (OR=1.5, 95%CI=1.2-2.0) adjusting for ARIC race/center, gender, age, education, hypertension, diabetes, LDL, HDL, BMI, and smoking. **Conclusions:** Those with extensive EAL and TL were more likely to have CHD. However, TL in the presence of low levels of EAL was not associated with higher odds of CHD, indicating that tooth loss in the absence of periodontal disease was not associated with increased risk for CHD.

ORAL HYGIENE

4049 TWO CHLORHEXIDINE MOUTHRINSES COMPARED

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Objectives: The aim of this study was to evaluate the inhibition of plaque growth of two commercially available mouthrinses (0.12% and 0.2% chlorhexidine (CHX) concentration) during a 72 hours plaque accumulation. **Methods:** The clinical investigation was a single blind, randomized study involving 80 volunteers (40 female, 40 male, mean age 25.7 years). At the start of the trial, all participants received a scaling and polishing treatment. Subjects refrained from oral hygiene and rinsed 2x per day with the allocated rinse. The 2 mouthrinses were used according to the manufacturers instructions. This resulted in 2 chlorhexidine regimens; one of 30 s rinsing with 15 ml 0.12% CHX (Oral-B®) and another of 60 s rinsing with 10ml 0.2% CHX (Corsodyl®). After 72 hours the Plaque Index (PI) from all volunteers was recorded at 6 sites per tooth. All participants received a questionnaire to evaluate their appreciation of the mouthrinses. **Results:** After 72 hours the 0.12% CHX-regimen showed a PI of 1.65 (sd 0.31) and the 0.2% CHX-regimen a PI of 1.60 (sd 0.40). The results for both the PI and the questionnaire showed no significant difference between the 2 rinsing regimens apart from one item in the questionnaire. The panelists appreciated the shorter rinsing time significantly better (VAS-score 6.7 as opposed to 5.8, $p = 0.03$). **Conclusion:** the results of this short-term study showed that both commercially available mouthrinses, although differing in concentration and rinsing time, were similar in their effect on plaque growth. In addition the shorter rinsing time was better appreciated.

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ORAL HYGIENE

214 MICROBIAL CONTAMINATION OF PACIFIERS AND THEIR DECONTAMINATION

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Objective: the purpose of this study was 1) evaluate on pacifiers the biofilm formation by scanning electron microscopy; and, 2) verify the efficacy of 3 disinfection methods (chlorhexidine digluconate formulation, Brushtox® and the pacifiers' boiling). **Methods:** the study consisted of 4 steps (Group I, II, III and IV), making possible the comparison of the sample obtained by the same person. A total of 16 children (2 to 7 years old) received 4 latex pacifiers (Neopan®), successively, and used each one during 5 days. The first pacifier given were the Group I, the second pacifier were Group II and so on. After use, the pacifiers of Group I (control) were sprayed 5 times with sterilized water. The pacifiers of the Group II and Group III were sprinkled with a chlorhexidine digluconate formulation and Brushtox®, respectively. The Group IV pacifiers were decontaminated by boiling the pacifiers for 15 minutes, as recommended by the pediatricians. The pacifiers of each group were processed for microbiological evaluation. The number of colony formed on the surface of the pacifiers was determined using stereomicroscope, and the results expressed as score: 0) absence of colonies; 1) 1-20 colonies; 2) 21-50 colonies; 3) > 51 colonies. After on, two pacifiers of Group I were immersed in glutaraldehyde solution for SEM analysis. **Results:** in Group I mutans streptococci were on 93.8%, prevailing scores 1 and 2. On the other hand, 23% of the Group II pacifiers, showed development of mutans streptococci, as score 1. In Group III pacifiers 57.2% presented score 1; 28.6% score 2 and 7.1% were score 3. Group IV pacifiers presented score 1 on 56.3%. **Conclusion:** there were formation of mutans streptococci biofilm on the surface of the pacifiers in SEM analysis. Chlorhexidine formulation and the pacifiers' boiling were efficient in pacifiers disinfection.

ORAL HYGIENE

217 CANDIDAL COUNT AND SPECIES IN PATIENTS WITH REMOVABLE DENTAL PROSTHESES

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Recurrent oral candidiasis is the most common oral infection among denture wearers. Studies have suggested that dental prostheses could potentially be a source for recurrent infections by acting as a reservoir for candidal colonization. **Objectives:** The purpose of this study was to examine candidal colonization (count and species) in the presence and absence of removable dental prostheses. **Methods:** Oral rinses were obtained from 44 patients with recurrent oral candidiasis in the presence and absence of removable dental prostheses. Aliquots of the rinses were grown on commercial CHROMagar™ Candida plates and candidal count was expressed as colony forming units (CFU/ml). Candidal species were identified by a color code specific for individual species. **Results:** The mean total candidal count with prostheses was $23,120 \pm 4060$ CFU/ml, as compared to $24,024 \pm 3428$ CFU/ml without prostheses. The most predominate candidal species with and without prostheses, were *C. albicans* > unspecified candidal species (uCs) > *C. krusei* > *C. tropicalis*. The mean *C. albicans* count with prosthesis was $10,508 \pm 2220$ CFU/ml vs $11,877 \pm 1988$ CFU/ml without prosthesis; uCs $15,396 \pm 3040$ CFU/ml vs $14,228 \pm 2415$ CFU/ml; *C. krusei* was $23,056 \pm 7534$ CFU/ml vs $24,432 \pm 7315$ CFU/ml; *C. tropicalis* $18,195 \pm 10,760$ CFU/ml vs $23,468 \pm 11,255$ CFU/ml, respectively. Statistical analyses did not reveal significant differences in candidal counts or species in the presence or absence of dental prostheses ($p = 0.6488$, $p = 0.9343$, $p = 0.8966$, and $p = 0.7616$, respectively). **Conclusions:** A similar candidal colonization pattern was observed in the presence and absence of dental prostheses. Therefore, treatment of removable dental prostheses with anti-fungal medication is imperative to minimize the frequency of recurrent oral candidiasis.

2322 PLAQUE REMOVAL EFFICACY OF A BATTERY-POWERED TOOTHBRUSH VERSUS A MANUAL TOOTHBRUSH

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A novel, battery powered toothbrush was developed to provide more effective plaque removal. The purpose of this study was to compare the plaque removal efficacy of this toothbrush (REACH PowerBrush (RPB), Johnson & Johnson) to Oral-B Indicator (OBI, Oral-B Laboratories). An examiner-blinded, randomized cross-over study was conducted with 72 healthy adults. Subjects meeting the entrance criteria were disclosed and screened for plaque using the Rustogi Modification of the Navy Plaque Index (RMNPI). Subjects with an RMNPI of ≥ 0.6 following 23-25 hours of no oral hygiene were entered into the study. The subjects were randomized into one of two treatment groups and brushed unsupervised for 1 minute with their assigned toothbrush. After brushing, subjects were disclosed again and re-evaluated for plaque. Subjects returned about one week later and were disclosed/scored for plaque after having refrained from oral hygiene for the preceding 23-25 hours. Subjects brushed with the second brush and were again re-disclosed and evaluated for post-brushing plaque. Between treatment group comparisons were made using both ANOVA on the change from pre to post brushing RMNPI scores and ANCOVA on the post-brushing scores with the pre-brushing scores serving as the covariate. Compared to OBI, RPB removed 22%, 32% and 20% more plaque from whole mouth, gingival margin, and approximal surfaces, respectively. RPB was significantly better than OBI in removal of plaque from all sites ($p = 0.0001$). In conclusion, the battery powered toothbrush (RPB) was significantly more effective in removing plaque than the manual flat trimmed toothbrush (OBI) in this single-use brushing study.

KIDNEY DIALYSIS

640 DIALYSIS PATIENTS AND ORAL HEALTH STATUS

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Data on oral health of dialysis patients is rare in the dental literature. **Objectives:** The objective of this study was to investigate the oral health status of dialysis patients. Sixty-one adult persons (male = 16, female = 45) participated in this study. **Methods:** A questionnaire was used to record the education level, monthly income, marriage status, oral hygiene habits; brushing, flossing, mouth washing, regularly dental visits, the type of treatment received; filled, root canal, periodontal, the pH value of saliva and also the oral physiological change after dialyzed; saliva secretion, the pH value of saliva, ulcerative, bleeding and the smell of the oral cavity. Oral examination recorded the number of decayed, missing, filled and teeth (DMFT), as well as periodontal evaluation; bleeding, calculus deposit and the depth of periodontal pocket. Data were statistically analyzed using SPSS software. T-tests and Chi-Square tests were performed within the 95% interval with $p = 0.05$. **Results:** There was no statistical difference in periodontal evaluation between health people and dialysis patients. But the dialysis patients were statistically higher in the number of DMFT compared with healthy people. **Conclusion:** The results suggest the dialysis patients need to develop better oral health care habits and undergo regular fluoride treatments to protect their teeth.

ORAL HYGIENE

2859 EFFECT OF A NEW SONIC/ULTRASONIC TOOTHBRUSH ON PLAQUE AND GINGIVITIS

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Objectives: The purpose of this clinical study was to evaluate the efficacy of the sonic/ultrasonic power toothbrush Ultra Sonex Ultima® in comparison with a conventional manual toothbrush (Aronal oeko-dent kompakt, medium). **Methods:** 64 healthy volunteers (32 females, 32 males) took part in the parallel-design examiner-blind study. After a screening examination and stratification by age, sex, and papillary bleeding index (PBI, MUEHLEMANN and SON), the participants were randomly assigned to a test group (power toothbrush, $n = 32$) and a control group (manual toothbrush, $n = 32$). Thereafter, each proband received a professional toothcleaning. Four weeks later, at baseline, the TURESKY-modification of the QUIGLEY-HEIN plaque index (PI), the approximal plaque index (API, LANGE et al.), and the PBI were recorded. From then on the probands used the assigned toothbrush two times/day for three minutes each. All participants used the same toothpaste (Elmex). Four and eight weeks after baseline, the indices were recorded again. Mann-Whitney U test was used for statistical analysis. **Results:** At baseline, there was no statistically significant difference for any index between test and control group. The median PI for the power brush was significantly lower ($p < 0.001$) than for the manual brush after four (1.34 vs. 2.16) and eight weeks (0.92 vs. 1.96). The median PBI showed comparable results after four weeks (power: 0.43 vs. manual: 0.75, $p < 0.01$) and after eight weeks (0.29 vs. 0.63, $p < 0.001$). At any time, the API showed no difference between the power and the manual toothbrush. **Conclusions:** The tested sonic/ultrasonic toothbrush may be more efficacious than a manual toothbrush in removing plaque and preventing gingivitis.

PAIN / STRESS

2309 COMPARISON OF INTRAPOCKET TOPICAL ANESTHESIA AND INJECTION ANESTHESIA FOR SCALING AND ROOT PLANING

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Objective: The purpose of this study was to compare the analgesic efficacy of an intrapocket topical anesthetic gel (20% benzocaine in a 1.2 cc prefilled syringe) to conventional local injection anesthesia (2% lidocaine with 1:100,000 epinephrine) during scaling and root planing (SRP). **Methods:** Twenty (20) patients with moderate to severe periodontitis requiring SRP were enrolled. Patients had no medical contraindications for SRP and had at least two quadrants with three or more non-adjacent pockets ≥ 5 mm. The type of anesthesia was randomized by quadrant for each patient. SRP was administered for each quadrant at separate appointments. The anesthetic gel was delivered into periodontal pockets using a syringe with a blunt needle and SRP was performed after waiting 1 to 2 minutes. If patients had any discomfort, the gel was applied a second time. Local infiltration or block anesthesia was administered by injection. Before, during and immediately after SRP, patients rated their pain using a Heft-Parker visual analog scale. Multiple regression and paired t-tests were used in data analysis. **Results:** Regardless of adjustment for gender and age, local injection anesthesia was more effective than intrapocket topical anesthesia in reducing pain during SRP ($p = 0.01$). There were no differences in pain between the two types of anesthesia before ($p = 0.34$) or immediately after ($p = 0.27$) SRP. Half the patients preferred topical anesthetic over local anesthetic as a pain control method. **Conclusions:** Local injection anesthesia was more effective than intrapocket topical anesthesia for pain associated with SRP. However, intrapocket administration of 20% benzocaine gel may offer an alternative to conventional local injection anesthesia for some patients. Supported by NIDCR DE09737 & The Erwin Schaffer Chair in Periodontal Research.

ANTIMICROBIALS

3625 CLOROX™, PERIDEX™ AND 3 COMMERCIAL DENTURE CLEANSERS AS DISINFECTING AGENTS: IN VITRO COMPARISON

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It is important to disinfect dentures contaminated with *C. albicans*. **Objectives:** Determine the lowest concentrations of Clorox™ and Peridex™ that eliminate the biofilm metabolic activity (BMA) of *C. albicans* and to determine the effectiveness of solutions of three commercial denture cleansers against BMA of *C. albicans*. **Methods:** Four strains of *C. albicans* (3153A, SC5314, 6455, 6309), isolated from denture stomatitis patients, were used to form biofilms on 96-well microtiter plates. After biofilms were formed, Clorox™ was added in serial dilutions with distilled water (from 1:1 to 1:512) and Peridex™ was added in concentrations of 100%, 50% and 25%. The plates were incubated for 30 minutes. One tablet of Efferdent™, Polident™ for Partials and Polident™ for Dentures were each dissolved in 200ml increments of sterile water and added to two additional groups. One group was incubated for 30 minutes, the other for approximately 18 hours. Positive and negative control groups were used for each test group. XTT Spectrophotometric Reduction Assay was performed to measure the metabolic activity of the biofilms. This assay is reliant upon the mitochondrial dehydrogenases of the live cells to convert an XTT tetrazolium salt into a reduced formazon colored product. This method is stable, accurate and reproducible. **Results:** Clorox™ concentrations of 1:32 and stronger resulted in 100% decrease in BMA of all strains. Concentrations of 1:16 and stronger completely removed the biofilms. Peridex™ concentrations of 50% and stronger resulted in 100% decrease in BMA with three of four strains. Polident™ for dentures resulted in a 100% decrease in BMA with three of four strains after 18 hours exposure. **Conclusion:** Clorox™(1:32) and Peridex™(50%) are effective in rapidly eliminating the metabolic activity of *C. albicans* biofilms.

ELDERS

2732 A RANDOMIZED CLINICAL TRIAL OF CARIES PREVENTIVE MOUTHRINSES AMONG INSTITUTIONALIZED ELDERS

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Previous studies on the incidence of caries in elderly populations indicate that this is a significant problem. **Objectives:** This study compared the clinical effectiveness of three mouthrinses containing a 0.2% neutral sodium fluoride (Fl), a 0.12% chlorhexidine (CHX), and a placebo solution used daily over one year in reducing the incidence of caries among 369 dentulous elders in 39 long-term care facilities. **Methods:** Subjects were examined for caries, identified by the NIH diagnostic criteria, and placed randomly on one of the three rinses. After one year, 63 (17%) subjects had died, 65 (18%) were too ill to use the rinse or they were unavailable, and 33 (9%) had not complied with our protocol. This left 208 (56%) subjects: 72 (35%) using Fl; 76 (37%) using CHX; and 60 (29%) using the placebo; and almost everyone (85% in each group) used the rinse as directed. On average, there were 16 teeth per subject in the CHX group and 17 teeth in each of the two other groups, and over the course of the year each group lost less than one tooth per person. **Results:** In the Fl group, 37% of the subjects had a net increase of one or more carious surfaces during the year, 49% had a net decrease, and 14% had no change; in the CHX group, 49% of the subjects had an increase, 26% a decrease, and 25% had no change; whereas in the placebo group, 48% had an increase, 22% had a decrease, and 30% had no change. **Conclusions:** Clearly, the fluoride rinse offered a more significant (Chi-sq=14.1; df=4; P=0.007) caries-inhibiting effect than either the CHX or the placebo in this population during the first year of our two-year study. Supported by BCHRF Institutional Program Grant #212 (97-2).

BIOFILMS

713 EFFECT OF AUTOCLAVING ON THE MECHANICAL PROPERTIES OF DENTAL SYRINGE TUBING

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Biofilms occurring in dental unit water lines have long been reported as sources for potential infections. The manufacturer does not recommend autoclaving the internal dental syringe tubing because it is claimed that the material (polyurethane) is prone to hydrolytic and oxidative degradation under repeated steam sterilization conditions. **Objectives:** This study investigated the effects of repeated autoclaving on the tensile strength of polyurethane dental syringe tubing. **Methods:** Twenty specimens (7 in. long) of 1/8 in. internal dental syringe tubing (A-dec) were placed into 2 separate glass tubes (10 specimens each). One glass tube was filled with distilled water and the other was kept dry. Each tube was closed and autoclaved at 15 lbs pressure and 121 °C for 15 min. using a Castle steam autoclave. The autoclave process was repeated for 20 times. The tensile strength of autoclaved and original tubing (as control, n = 10) was then measured using an Instron 4411 testing machine at crosshead speed of 50 mm/min. The data was analyzed using one-way ANOVA and Tukey's B test. **Results:** the mean values (standard deviation) of the maximum tensile strength (MPa) were: control: 37.03 (4.96), dry autoclaved: 35.23 (2.63), wet-autoclaved: (22.83 (1.49). The statistical analysis revealed no significant difference between dry autoclaved samples and control but wet autoclaved sample had significant low tensile strength than control and dry autoclaved samples. **Conclusion:** It was determined that after samples of polyurethane tubing were autoclaved in the presence and absence of water for twenty cycles, those autoclaved dry were not altered mechanically while the tubing immersed in water showed a significant reduction in tensile strength.

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ELDERS

1292 KNOWLEDGE LEVEL OF ELDER ABUSE AMONG LICENSED NORTH CAROLINA DENTAL HYGIENISTS

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Elder abuse is a national problem. Dental hygienists can play a significant role in identifying and reporting suspected abuse, which is required of "any person" living in North Carolina. **Objectives:** To determine the knowledge of elder abuse among NC licensed dental hygienists. **Methods:** A 17-item, self-report survey was mailed to 93 practicing dental hygienists in Gaston County, NC, where 69 cases of elder abuse were reported last year. Survey content included knowledge level of reporting requirements for suspected abuse, abuse identification, educational experiences, office policies, and demographic information. Data were analyzed using Fisher's Exact and Extended Cochran Mantel-Haenszel χ^2 tests. **Results:** Fifty-four surveys (58%) were returned. Results showed that the more extensive the professional training, the greater the expectation of being required to report (DDS, 70%; RDH, 61%; DA, 54%). For the 70% who believed that reporting by dental professionals was legally mandated, almost all felt child (100%) and elder abuse (94%) were included, whereas 83% believed spousal abuse was mandatory. Approximately 50% of respondents did not consider themselves very knowledgeable about oral/facial manifestations of elder abuse. No significant difference was seen for a correct response to required reporting when analyzed by year of graduation ($p > .05$), office setting ($p > .05$), or educational degree ($p > .05$). Hygienists in group practice were more likely than other respondents to be aware of their own reporting requirements ($p = .02$). Seven percent had suspected elder abuse with only two percent stating a formal office protocol for documenting and reporting abuse. Only 18% reported having elder abuse content in their hygiene curricula and nine percent had attended a continuing education course on elder abuse. **Conclusions:** An increased emphasis should be placed on educating dental hygienists about identification and reporting of elder abuse.

FLUORIDE

4041 THE PATIENT ACCEPTABILITY AND COSTS OF TOPICAL FLUORIDE FOAM VS. VARNISH

J. NOBLE, D. LOCKER, and R. HAWKINS, University of Toronto, Canada

Objectives: The purpose was to compare the patient acceptability and costs of professionally applied topical fluoride (PATF) foam and fluoride varnish in children at high risk of caries. **Methods:** Children were identified and given PATF in York Region, Ontario, Canada. They received either foam, applied using trays, or varnish (Duraphat) painted on tooth surfaces. Subjects were observed for any responses including vomiting, gagging, expressions of discomfort, crying or other signs of distress. They were then given a questionnaire about their experience and satisfaction with the treatment. Parents were contacted the next day and asked what their child said and if there were any complaints. **Results:** Eighty children participated ranging in age from 3-14 years (mean = 8.2 ± 2.4) and 55% received foam. A higher proportion of patients who received foam were observed to have at least one response compared to patients who received varnish (59% vs. 14%, $p < 0.0001$). Children under six years tended to have more adverse effects from the foam. Children who had not previously had PATF tended to have more adverse effects with the foam and this effect was not seen if they received varnish. A total of 39% who received foam reported they felt like gagging compared to 17% who received varnish ($p < 0.05$). No significant problems were found from the parent follow-up questionnaire. The average time it took to apply was 5.8 minutes for the varnish and 7.9 minutes for the foam ($p < 0.0001$). Considering hygienist salary and supplies, the cost per application of varnish was \$3.91(CAN) and the cost of foam was \$4.47(CAN). **Conclusions:** These findings suggest the varnish may be more acceptable to children than foam with lower costs.

CANCER

3993 ORAL CANCER EARLY DIAGNOSTIC AIDS: TOLONIUM CHLORIDE STAIN

R.S. FELDMAN, VAMC, School of Dental Medicine, University of Pennsylvania, USA, and R.E. GREEN, Zila Pharmaceuticals, Inc, USA

Squamous Cell Carcinoma (SCCA) diagnosis in at-risk populations may be increased by identification of early, asymptomatic lesions, a practice beneficial to prognosis and clinical outcome. Efficiency in biopsy site selection may also reduce false negative biopsies. **Objectives:** We study Tolonium chloride stain in SCCA identification by sequential visual exam and subsequent staining for lesions that arise in postsurgical and radiation fields. **Methods:** We tested past SCCA patients in 13 clinical centers by Visual exam, followed by Tolonium chloride stain by a second, blinded examiner. Positive stain exams are repeated +10-20 days, however clinical urgency at first exam dictates treatment. We compare relative effectiveness (Visual vs. stain) and exam success rates by nonparametric statistics. Stain is also assessed in terms of biopsy site selection. Stain during exam may be enhanced by local illumination. One pathologist, blinded to clinical exam, provides histologic diagnosis which constitutes definitive diagnosis. **Results:** 668 SCCA patients have yielded 96 lesions in 81 patients. Five lesions were Visual exam positive and Tolonium chloride stain negative; Tolonium chloride stain was positive in 60 non-cancers that were positive in 21 Visual exams. 30 lesions tested SCCA positive in both exams, of which 12 were Visual exam negative. All SCCA tested positive by Tolonium chloride stain, 29 at first exam and one at second exam. Visual exam sensitivity = 0.40, Positive Predictive Value = 36.4% while Tolonium chloride sensitivity = 0.97 ($p = 0.0002$), PPV = 32.6%; no significant Kappa agreement difference. Illumination by local placement of a luminescent source seemed to improve clinical contrast against mucosal surfaces. **Conclusion:** Oral SCCA diagnosis is significantly enhanced by Tolonium chloride stain as a clinical aid. Support: Zila Pharmaceuticals, Inc.

CANCER

215 INTERVENTIONS FOR TREATING ORAL MUCOSITIS FOR PATIENTS WITH CANCER: A SYSTEMATIC REVIEW

H. WORTHINGTON, Manchester University, United Kingdom, and J. CLARKSON, Dundee University, United Kingdom

Objectives: To assess the effectiveness of interventions for the treatment of oral mucositis or its associated pain for patients with cancer receiving chemotherapy and/or radiotherapy. **Methods:** Computerised MEDLINE, EMBASE, CCTR and the Cochrane Oral Health Group Specialised Register were searched. Date of most recent searches: May 2001 (CCTR 2001, issue 2). Randomised trials were selected if they met the following criteria: design - random allocation of participants; participants - anyone receiving chemotherapy and/or radiotherapy for cancer, with mucositis; interventions - agents prescribed to treat oral mucositis; outcomes - oral mucositis, oral pain, dysphagia, systemic infection, amount of analgesia, length of hospitalisation, cost and patient quality of life. Information regarding methods, participants, interventions, outcome measures and results were independently extracted, in duplicate, by two reviewers. Authors were also contacted for details of randomisation blindness and withdrawals and a quality assessment was carried out on these three criteria. **Results:** 15 trials involving 876 patients satisfied the inclusion criteria. Only two agents each in single trials were found to be effective for improving (allopurinol RR = 0.63 95% CI 0.42 to 0.96) or eradicating mucositis (allopurinol RR = 0.59 95% CI 0.42 to 0.84; vitamin E RR = 0.38 95% CI 0.14, 0.97). Three trials compared patient controlled analgesia (PCA) to the continuous infusion method (CI) for controlling pain, and there was no evidence of a difference. However there was evidence that less opiate is used per hour for PCA. **Conclusions:** There is weak evidence that allopurinol mouthwash and vitamin E may be beneficial in improving or eradicating mucositis. There is no evidence that PCA is better than CI for controlling pain, however there is evidence that less opiate is used per hour. There is a need for more well designed trials including a placebo control, assessing the effectiveness of allopurinol mouthwash, vitamin E and new interventions for treating mucositis.

SMOKING

3235 CLINICAL, MICROBIOLOGICAL AND IMMUNOLOGICAL RESPONSES IN SMOKERS WITH PERIODONTAL DISEASE

D.A. APATZIDOU, M.P. RIGGIO, and D.F. KINANE, University of Glasgow, United Kingdom

Objectives: The aim of this study was to determine the clinical, microbiological and immunological profiles of smoking and non-smoking periodontitis patients before and after conventional non-surgical periodontal therapy.

Materials and Methods: 20 patients with moderate to severe periodontitis received mechanical debridement and were followed over 6 months. Clinical data were recorded and serum, gingival crevicular fluid (GCF) and subgingival plaque samples were collected before and after treatment. Antibody titres were assayed by enzyme-linked immunosorbent assay (ELISA) and avidity was measured by thiocyanate dissociation against five putative periodontal pathogens: *P. gingivalis*, *A. actinomycetemcomitans*, *P. intermedia*, *T. denticola*, and *B. forsythiae*. The presence of these bacteria in plaque was determined by polymerase chain reaction (PCR).

Results: Smokers showed significantly less gingival inflammation and GCF volume at baseline than non-smokers ($p < 0.05$). Less pocket depth reduction, less attachment gain and a smaller reduction in GCF volume was seen in smokers compared with non-smokers after treatment ($p < 0.05$). At baseline, serum IgG titres were lower for smokers ($p \leq 0.05$ for *A. actinomycetemcomitans* and *P. intermedia*) while their change with treatment was similar for both subgroups. No significant differences in IgG avidity and subgingival microflora were seen between smokers and non-smokers before and after treatment.

Conclusion: Smoking has an adverse effect on the clinical outcome of periodontal therapy and appears to affect the immunological profile of periodontitis patients. Smoking reduces gingival inflammation and thus masks early signs and symptoms of periodontal disease.

SMOKING

651 IMPACT OF TOBACCO USE ON ORAL HEALTH

A. SAMANT, J. MARTIN, N. AGNIHOTRI, and J. AGNIHOTRI, New Jersey Dental School, University of Medicine and Dentistry of New Jersey, USA

Tobacco use impairs oral mucosal healing and is an important risk factor for oral cancer. **Objectives:** Present study was undertaken to investigate the prevalence of tobacco use and study the spectrum of oral lesions in subjects who smoke tobacco. **Methods:** Clinical profile and demographic data of 359 randomly assigned subjects (232 non-smokers and 127 smokers) seeking dental care at an urban dental clinic were analyzed for the prevalence of smoking and oral lesions. There were 153 males (82 non-smokers and 71 smokers) and 206 females (150 non-smokers and 56 smokers). The mean age of non-smokers (47.8 ± 16 years) and smokers (44.3 ± 12.7 years) was comparable. **Result:** The prevalence of tobacco smoking was 35% (127 of the 359 subjects), more in males (46%) than in females (27%). *Oral Lesions in Non-Smokers:* Mucosal soft tissue lesions were seen in 87 of the 232 subjects (37.5%). 60% of the lesions were simple lesions (buccal leucoplakia, melanotic macule, hyperpigmentation, fordyce spots, reactive mucosal lesions). Gingivitis, endodontic lesions and dry mouth accounted for 34% lesions. *Oral Lesions in Smokers:* Mucosal soft tissue lesions were more prevalent in smokers ($p < 0.05$) and seen in 77 of the 127 subjects (61%). 34% of the lesions were simple soft tissue lesions as noted above. Gingivitis, endodontic lesions and periodontitis accounted for 47% lesions. In addition 12 of the 77 smokers (16%) had lesions that are associated with tobacco use (lingual and buccal floor leucoplakia, cyanotic gingivitis, oro-pharyngitis, nicotine stomatitis) and were not seen in non-smokers. **Conclusions:** Tobacco smoking has adverse impact on oral health. It increases the occurrence of oral lesions. More importantly it is associated with soft tissue lesions that are otherwise uncommon or are not seen in non-smokers. Dental practitioners can play an important role in smoking cessation and prevention of adverse effects of tobacco use on oral and general health.

NUTRITION

4022 DIETARY HABITS OF ELDERS WITH DRY MOUTH

C.A. WATKINS, S.D. THOMPSON, T. MARSHALL, J.J. WARREN, and F. QIAN, University of Iowa, USA

Objectives: Clinical dry mouth is prevalent among elders and has been related to reported chewing and swallowing difficulties. This study investigated relationships of dietary habits among elders with objectively measured hyposalivation and subjectively reported xerostomia. **Methods:** The sample was the surviving cohort of the Iowa 65+ Rural Health Study. Oral exams and interviews were conducted in subjects' homes by four calibrated dentist examiners, and subjects subsequently completed 3-day diet records ($N=220$). Whole saliva was collected using a passive suction technique validated for use among frail elders. Xerostomia was defined as a "yes" response to "Does your mouth feel dry most of the time?" Adequate nutrient intake was defined as consumption of the nutrient's Dietary Reference Intake (DRI). Diet quality was defined by the number of nutrients consumed at adequate DRI levels. **Results:** Mean age was 85.4 years (SD 4.1), and 69% were female. Xerostomia prevalence was 17%. Mean unstimulated flow rate (UFR) was 0.35 g/min (SD 0.33). Thirty percent had hyposalivation (UFR < 0.1 g/min). Overall diet quality was poorer in subjects with xerostomia ($p < 0.05$); these subjects also had statistically lower intakes of energy, protein, riboflavin, niacin, pantothenic acid, vitamin D, calcium, copper, phosphorus, potassium, zinc and fiber and were less likely to consume adequate intakes of protein, folate, phosphorus and copper ($p < 0.05$). Subjects with hyposalivation were less likely to consume adequate intakes of vitamin D ($p < 0.05$). **Conclusions:** Perceived dry mouth was more frequently associated with lower overall diet quality and nutrient intakes than was objective hyposalivation. Perceptions of dry mouth may affect food choices or the ability to eat comfortably and result in nutrient deficiencies among the elderly. NIH P50 DE10758, T35 DE07159, University of Iowa Central Investment Fund for Research Enhancement and University of Iowa Dows Research Award.

NUTRITION

4021 COMMUNITY DWELLING ELDERLY: ORAL HEALTH AND DIETARY MEASURES

T.A. MARSHALL, J.J. WARREN, J.S. HAND, X.J. XIE, and P.J. STUMBO, University of Iowa, USA

Objectives: Oral disease contributes to nutritional risk in the elderly, although relationships between specific oral conditions and nutrient intakes are unclear. We have previously reported the diet quality, diet variety and nutrient intakes of a community dwelling, elderly cohort, aged 79+. The objective of the present study was to identify associations among oral health and dietary measures in this cohort. **Methods:** Subjects were surviving members of the Iowa 65+ Rural Health Study cohort participating in a prevalence study of oral soft tissue lesions. 220 subjects were interviewed, underwent dental exams and completed 3-day diet records in a cross sectional design. Calibrated dentists noted number and location of teeth present. Adequate nutrient intake was defined as consumption of the nutrient's Dietary Reference Intake. Diet quality was defined by the number of nutrients consumed at adequate levels, and diet variety was defined by the number of food types consumed during the 3-day period. **Results:** Number of teeth present was positively associated with diet quality, diet variety and protein, calcium, vitamin C and zinc intakes ($P < 0.05$). The presence of maxillary teeth was associated with increased diet variety and greater intakes of protein, calcium, riboflavin, phosphorus and zinc; and mandibular teeth with calcium, riboflavin, vitamin D and phosphorus ($P < 0.05$). Adequacy of nutrient intake was associated with the number of teeth (folate, calcium; $P < 0.05$); the presence of maxillary teeth (protein, calcium and zinc; $P < 0.05$); and the presence of mandibular teeth (protein, calcium and vitamin D; $P < 0.05$). **Conclusions:** These results suggest that both the presence and location of teeth are associated with the variety of foods consumed and nutrient intakes in the elderly. Supported by NIDCR grant P50-DE10758 and University of Iowa Central Investment Fund for Research Enhancement.

DIABETES

3236 PERIODONTAL THERAPY AND DIABETES GLYCEMIC CONTROL

S.G. GROSSI¹, F. SKREPCINSKI², A. HO¹, S. GARRETT³, W. ORTOLANO³, and R.J. GENCO¹, ¹ SUNY at Buffalo, USA, ² Indian Health Service, USA, ³ Atrix Laboratories, USA

Objective: To examine the effect of periodontal treatment on long-term glycemic control of diabetes. **Methods:** 75 Pueblo Indians with type 2 diabetes and severe periodontal disease were included in this randomized trial. Patients received ultrasonic debridement under continuous irrigation with 0.12% Chlorhexidine and one of the following regimens: a) single oral doxycycline 100 mg/bid, b) multiple oral doxycycline 100 mg/bid (baseline and 6 months); c) single oral doxycycline 100 mg/bid and multiple topical doxycycline (Atridox) every 3 months; d) multiple oral doxycycline 100 mg/bid and topical Atridox. Periodontal status and diabetes control were assessed at 3, 6, 9 and 12 months. **Results:** All 4 groups showed a significant reduction in percent sites with PD > 5 mm ($P < 0.01$) ranging from 17% to 27%. Patients with baseline $> 9\%$ glycated hemoglobin (HbA1c), i.e., uncontrolled diabetes, showed a reduction in this parameter ranging from 0.5 to 1.7% ($P < 0.05$). The greatest reduction in HbA1c levels was seen in the single oral doxycycline and multiple Atridox group. Levels of HbA1c in this group were reduced 1.1% at 1 month and 1.7% at 12 months ($P < 0.01$). A multiple regression model revealed that for every mm increment in mean pocket depth following periodontal therapy, HbA1c increased by 0.3%, independent of the effect of age, gender and baseline level of HbA1c or pocket depth ($P < 0.001$). Our results demonstrate a significant reduction in levels of HbA1c in patients with uncontrolled diabetes following anti-infective periodontal therapy and that this reduction can be sustained for 12 months. **Conclusions:** Ultrasonic debridement combined with oral doxycycline and repeated topical doxycycline results in a long term reduction in levels of glycated hemoglobin. Therefore, regular anti-infective periodontal therapy in diabetics with periodontal disease is important for long-term glycemic control. Supported by DHHS Grant No. 282980004 and Atrix Laboratories.

"PRACTICAL EXPERIENCE VERSUS ACCELERATED LEARNING"
(continued from page 75)

point; putting the theory into practice over the months and years, with all types of clients with all types of conditions, is what makes us valued health care professionals. So I believe that I, and others with similar qualifications, will continue to be as valuable as the dental hygienist who graduates in 2009.

Dental hygienists who are currently practising will *not* be required to obtain a degree. However, many have expressed an interest in this credential, and educators across Canada are exploring ways to facilitate our access to degree-completion programs. The number of degree-granting institutions has been increasing in Canada and now includes universities and technical institutes. Many organizations are looking at "block transfers" of credits for diploma programs. This means your dental hygiene diploma education could be recognized as the equivalent of first- and second-year university, or second and third year for those who completed first-year university transfer pre-requisite courses for admission into their dental hygiene programs. And the advances in technology allow us

to take courses in different ways. Many organizations offer off-campus courses through the Internet and other methods of distance education. For those who thrive on more direct interaction with classmates, on-site opportunities are also available. Degree-completion opportunities are more accessible than ever before.

The world of work has changed. It is expected that people will change jobs numerous times during their career. Both credentials and experiences are valuable in supporting career development. Dental hygienists with degrees and those with current knowledge and experience will always be valued oral health care professionals. Dental hygienists in the future must be prepared for new and varied practice environments and increased levels of responsibilities; degree education will support our entry-to-practice dental hygienists in preparing themselves for these challenges. Some have suggested that the CDHA policy statement on education is "audacious." No doubt it is, but we are up to the challenge.

Barbara Gibb RDH, <president@cdha.ca> 

"L'EXPÉRIENCE PRATIQUE ET L'APPRENTISSAGE ACCÉLÉRÉ"
(suite de la page 75)

À mon point de vue, le diplôme est en réalité une forme d'apprentissage accéléré. Les opportunités associées aux programmes de diplôme permettront aux étudiants et étudiantes d'acquérir pendant leur séjour à l'université les connaissances que plusieurs d'entre nous avons acquises au fil de nos nombreuses années de pratique. Le nouveau programme d'études aura une base plus large que celle que j'ai suivie il y a plusieurs années lorsque j'ai étudié pour devenir hygiéniste dentaire. Les nouveaux et nouvelles diplômés commenceront alors le processus d'accumulation de l'expérience qui solidifiera et élargira leur éducation. Car le diplôme n'est qu'un point de départ ; mettre la théorie en pratique pendant des mois et des années, avec tous les genres de clients et dans tous les genres de conditions, voilà ce qui fait de nous des professionnelles estimées des soins de santé. Donc, je crois que moi-même, et d'autres qui ont des qualifications analogues, continueront à avoir autant de valeur que les hygiénistes dentaires qui recevront leur diplôme en 2009.

Les hygiénistes dentaires qui sont présentement dans la pratique *n'auront pas* l'obligation d'obtenir un diplôme. Toutefois, plusieurs ont exprimé un intérêt vis-à-vis cette sanction, et les éducateurs de tous les coins du Canada cherchent des moyens pour faciliter notre accès à des programmes qui nous permettraient de compléter nos diplômes. Le nombre d'institutions décernant des diplômes s'est accru au Canada et comprend maintenant des universités et des instituts techniques. Beaucoup d'organisations envisagent des "transferts en blocs" de crédits pour les

programmes de diplôme. Cela veut dire que votre éducation pour un diplôme en hygiène dentaire pourrait être reconnue comme l'équivalent d'une première et d'une deuxième année d'université, ou d'une deuxième et troisième années pour ceux et celles qui ont complété des cours de transfert universitaire prérequis pour une première année, pour l'admission à leurs programmes d'hygiène dentaire. Et les progrès technologiques nous permettent de suivre des cours de différentes façons. Plusieurs organismes offrent des cours hors campus par le biais de l'Internet et d'autres méthodes d'enseignement à distance. Pour ceux et celles qui profitent mieux d'une interaction plus directe avec des collègues de classe, les occasions d'enseignement sur place sont également disponibles. Les occasions de compléter un diplôme sont plus accessibles que jamais.

Le monde du travail a changé. On s'attend à ce que les gens changent de travail plusieurs de fois pendant leur carrière. Le diplôme et l'expérience sont tous deux précieux pour le soutien du développement de carrière. Les hygiénistes dentaires qui possèdent des diplômes et celles dont les connaissances et l'expérience sont à jour seront toujours des professionnelles estimées des soins de santé buccale. Les hygiénistes dentaires de l'avenir devront être prêtes à travailler dans des milieux de pratique nouveaux et variés et à assumer des niveaux plus élevés de responsabilités ; l'enseignement au niveau du diplôme soutiendra les efforts de nos hygiénistes dentaires, de l'entrée à la pratique, pour se préparer à ces défis. On a suggéré l'idée que l'énoncé de politique de l'ACHD sur l'éducation est "audacieux". Sans aucun doute, mais nous sommes capables d'assumer ce défi.

Barbara Gibb RDH, <president@cdha.ca> 

"IGNORANCE IS NOT BLISS..." (continued from page 81)

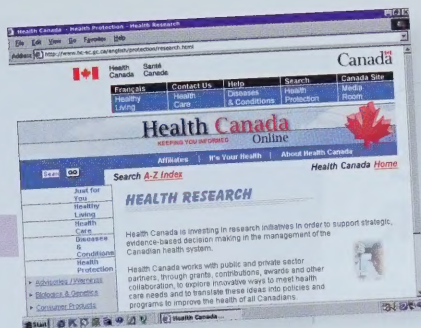
gloves for the volunteers. Why is it such a mystery that a problem with the mouth can be the reason people cannot eat or have non-specific infections that just won't go away? Is it a question of time? Is it a question of not wanting to admit that the most basic elements of care are neglected because they aren't seen as having such a significant impact on the quality of residents' lives? Are the hallways filled with Mr.

Magoos? It is easy to neglect what we can't see. I applaud the efforts of all dental hygienists who are opening the eyes of caregivers, eroding ignorance, and caring for the whole person they see in their residential practices.

The CDHA will continue its work of removing the barriers that hamper dental hygienists from using their knowledge and skill to erase occurrences of these horror stories. 

PROBING THE NET

BY KAREN WOLF, DipDH



Summer is here once again and we will soon be caught up in the activities that accompany our "sunshine season." I will not keep you chained to your computer in this issue. Rather, I hope to challenge you to take initiatives to become professionally proactive.

According to Health Canada, "the main purpose for primary health care reform is to ensure that Canadians have access to the right care by the right provider when and where they need it." In order to facilitate this, our federal government "is investing in research initiatives in order to support strategic, evidence-based decision making in the management of the Canadian health system." Check out Health Canada's *Health Research* section on their Web site at <www.hc-sc.gc.ca/english/protection/research.html>.

Health Canada works with public and private sector partners to explore innovative ways to meet our health care needs. Their activities include the Canadian Institutes of Health Research, the Health Policy Research Program, as well as the Medical Research Council of Canada. The newest initiative is the Primary Health Care Transition Fund. "In September 2000, First Ministers identified primary health care reform as a priority for the renewal of Canada's health care system. To support this goal, the Government of Canada announced the \$800 million Primary Health Care Transition Fund (PHCTF) to help bring about systemic, long-term reform. The PHCTF will support provinces and territories in their efforts, over the next four years, to improve the delivery of primary health care." The challenge I found interesting was one of the objectives of this fund clearly states: "more interdisciplinary teams with enhanced roles for registered nurses, pharmacists, and other providers". We, Registered Dental Hygienists, are a valuable part of the primary health care reform for our country.

At our own CDHA site <www.cdha.ca> in the *News Room* section, there are three reports that have been presented to government and are available for you to read. Each report stresses the importance of the dental hygienist within the Canadian health care system. As well, you will find on our Web site detailed information about our upcoming professional conference, "Ride the Tide to Professional Pride." I encourage you to take advantage of this event to explore the many ways you can become proud of your profession.

Enjoy your holidays! Until next time. ☀️



NEW MEMBER ON SCIENTIFIC ADVISORY/REVIEWER GROUP

GLADYS L. STEWART, RDH, BA, MSc

Gladys is an Instructor and Undergraduate Coordinator in the Department of Community Health Sciences, Faculty of Medicine, University of Manitoba. She has developed varied fields of interest and experience through a career in dental hygiene clinical practice, education, and

research. She is an alumna of the University of Manitoba's Dental Hygiene Program, has a Bachelor of Arts (Anthropology), and more recently a Masters Degree in 1998 from the Department of Community Health Sciences, Faculty of Medicine. Her research and academic interests are in population health, injury prevention, and community-based learning. Gladys is a past CDHA Board member, provincial president, and more recently served as the Scientific Coordinator of the 1999 CDHA conference.

Outdoor activities, including cycling, sailing, and tennis, are favourite recreational pursuits. She is active in her community with a high school advisory council and is on the 2002 National Youth Sailing Championship organizing committee. ⚓

Attention New Graduates!



Exceptional employment opportunities are available throughout British Columbia for new dental hygiene graduates.

Do you enjoy sailing in the morning and skiing in the evening? *We've got it!*

Big city lights? *We've got it!*

Attractive starting salaries? *We've got it!*

If lifestyle and employment security are important to you, think about starting your career in BC. Check out some of the positions available by viewing the Association of Dental Surgeons of BC's website at www.adsbc.bc.ca or phoning the Employment Opportunities Line of the BC Dental Hygienists' Association at 1-604-415-7671.

For registration enquiries, contact the College of Dental Hygienists of British Columbia at
telephone: 1-250-383-4101
fax: 1-250-383-4144
e-mail: cdhbc@cdhbc.com



Association of
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CROSS-CANADA REVIEW:

ONTARIO PITCHES ORAL HEALTH FOR OVERALL HEALTH

While it's common knowledge among dental hygienists that oral care plays an important role in our overall health, such is not the case among the public at large. During 2001, the Ontario Dental Hygienists' Association (ODHA) spent considerable energy trying to change that.

The Association's public-awareness campaign, which ran from May to December, focused on convincing Ontarians that good oral hygiene is critical to their overall health. The campaign also outlined the role dental hygienists play in preventing gum disease and tooth decay.

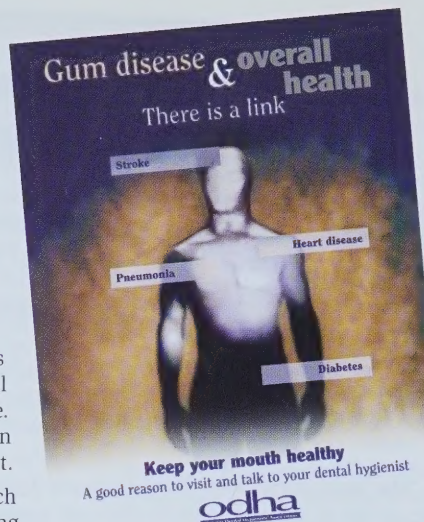
The message, to a potential audience of more than 30 million people, was widely disseminated using a variety of media.

Television – ODHA's 30-second commercial, which aired several hundred times on both CH-TV and Global TV, was seen in every community in Ontario.

Radio – ODHA's 30-second commercial was aired for several weeks in northern Ontario; 10-second dental-hygiene facts were aired live on E-Z Rock FM radio during Dental Health Month and during National Dental Hygiene Week™.

Reader's Digest – A two-page insert appeared in both the October and November editions of *Reader's Digest*.

Media Relations – A press release and accompanying promotional material was sent out to all print and broadcast media in the province in advance of National Dental Hygiene Week™. It resulted in a number of newspaper, radio, and television features.



Government Relations – A letter and information package was sent out to all Ontario MPPs, several of whom responded with letters of appreciation.

Web site – Additional information that strengthened the link

between oral health and overall health was posted on both the member and public sections of the ODHA Web site. Many people visited after seeing the 30-second television commercials.

Consistency is important when communicating with the public. To reinforce the message that good oral hygiene is critical to overall health, many kinds of promotional materials were made available for distribution to ODHA members. These included promotional flyers, brochures, posters, and a kit that contained camera-ready advertisements, media tips, and copies of the television and radio public-service announcements.

The success of the campaign was the result of hard work by a number of people and by the generous support of the ODHA sponsors including Colgate-Palmolive Canada, Warner-Lambert, Discus Dental, Tom's of Maine, and Wrigley Canada.

News item continued on page 110.

MARCH MEETING OF THE CDHA BOARD: HIGHLIGHTS

MARCH 23, 2002

CDHA President Barbara Gibb officially welcomed Diane Thériault to the Board and awarded her the CDHA Board Pin. Barbara then read the CDHA mission statement and spoke about the privilege and responsibility of being a Board member.

The 2002 CDHA Annual General Meeting will be held in conjunction with the September 2002 conference in Moncton, New Brunswick.

Ends Policies E1 (Mission/Purpose) and E2 (Priorities) were revised and will be in the July/August issue of *Probe*.

A new **GPIA**, named **Guiding Principles**, was created:

We are grounded in responsibility and accountability to our members, colleagues, and ourselves.

Our actions and decisions are guided by the following guiding principles:

- We conduct ourselves professionally and ethically.
- We strive for excellence through ongoing improvements.
- Our policy leadership guides our decision-making.
- Collective leadership: We speak with one voice.

- We are equal: We honour ourselves and treat one another with dignity, respect, and fairness.
- We are visionary with the purpose of advancing the profession of dental hygiene.

The Board supported the Saskatchewan Dental Hygienists Association proposal to hold the CDHA 14th Annual Professional Conference in Regina, Saskatchewan, June 19–21, 2003. They also supported the scheduling of the CDHA 15th Annual Professional Conference in St. John's, Newfoundland, on June 18–20, 2004.

The Revised Code of Ethics was approved and the task force and members who took the time to review the document were commended for their efforts. Suggestions were made for revising the *Definition, Scope and Practice Standards* document and the Board recommended a second round of member consultation on the members' web site. The Board will hold a teleconference to review the post-consultation version of the draft.

Salme Lavigne was nominated for, and accepted, the position of CDHA Board representative to the Commission on Dental Accreditation (CDAC). She replaces Bonnie Craig who has completed her term and served CDHA and CDAC admirably.

Remembering a Leader in the Profession

Barbara Heisterman

(Mark, Crosson) (1946–2001)

British Columbia dental hygienists are still mourning the loss of their friend and colleague Barbara Heisterman. Barbara was known to many of us across Canada during her 35 years or so of dental hygiene practice. As a single mother and a female entrepreneur, Barbara was a very busy woman. She loved her two grown children, Wendy and David Mark, and was so very proud of them both. Still, she always had time for kindness and wisdom with her many friends and colleagues. It was her generosity with time for mentorship that we will always remember. She had practised in nearly every region in Canada and had made good friends everywhere she went. Her life work involved not only the complex physical and cognitive demands of mobile dental hygiene in long-term residential care; it also involved the extremely frustrating and often emotionally draining political struggles for alternative and independent dental hygiene practice.



Barbara practised in many roles as a dental hygienist since graduating from the University of Alberta. Her practices included traditional clinical and specialty practice, education, community dental hygiene, administration, change agent, and mobile residential care. She also wrote articles and handbooks about residential dental hygiene care under the name of Barbara Crosson, more recently reverting to her maiden name of Heisterman. It was in this informal and mentoring role as a dental hygiene entrepreneur with her own mobile practice that Barbara made significant changes to the profession of dental hygiene. Her mentoring skills were evident as she helped to start dental hygienists in their own mobile practices with hours of personal coaching in the warmth of her own home. She also facilitated job shadowing for new residential care practitioners up and down the beautiful coast of Vancouver Island where she and her clients lived. She spoke with knowledge, passion, and humour to diverse groups both locally and internationally about residential dental hygiene care and her entrepreneurial mobile dental hygiene business and practice. She was sched-

uled to be a keynote speaker at last August's International Federation of Dental Hygienists Symposium in Sydney, Australia, but her sudden failing health precluded this event.

Barbara was beloved by the interdisciplinary teams in the long-term care facilities in which she practised. For many of the physicians, nurses, and other health care providers in residential care, she was a professional just like them. They didn't understand why she had to fight for the freedom to practise her dental hygiene therapies in long-term care. These professionals stood by her when she got ill, helping her to get the important palliative treatments she needed.

Barbara's willingness to risk it all for the institutionalized and homebound frail and often elderly persons she loved so much was the most extraordinary part of her uniqueness, innovation, and vision of a new practice role for dental hygienists. In 2001, Barbara was formally recognized for her life work in dental hygiene practice and leadership by the College of Dental Hygienists of British Columbia who awarded her the 2002 Darlene Thomas Award in Leadership.

The British Columbia Dental Hygienists' Association (BCDHA) has created an annual membership award in her name that will be given to the person who displays the outstanding innovation and commitment to care that Barbara modelled so well. Barbara J. Heisterman was of course the inaugural 2001 recipient of this award. Barbara also had input into the choice of the next recipient who will be honored in the fall of 2002. The call for nominations will go out in May/June *Outlook*, newsletter of the BCDHA. The BCDHA Board will select the 2002 recipient at their September board meeting.

Barbara passed away on November 26, 2001 after a valiant struggle with cancer. Her life work truly represents the values of leadership that have recently progressed the profession of dental hygiene. She fought tenaciously until the very end for dental hygienists to have the freedom to practise to their full scope, especially in long-term residential care. Because of her pioneering life work, she made the path much easier for those of us who follow. Thank you for your commitment, your care, and your courage, Barbara. You and your work and your friendship and humour will not be forgotten. We owe so much to you for your commitment to the values around the ethic of care.

—Ginny Cathcart, BA, DipDH, MEd
BCDHA representative to CDHA, 2001–2004

"L'IGNORANCE, CE N'EST PAS L'EUPHORIE..."
(suite de la page 81)

et toutes. N'est-il pas plus facile de nous planter la tête dans le sable et d'espérer que quelqu'un s'occupera de faire les réparations nécessaires avant que notre tour arrive ?

Des infirmières disent à une hygiéniste dentaire visiteuse qu'une femme qui vit là depuis quatre ans n'a plus de dents. L'hygiéniste dentaire découvre qu'elle en a, des dents ; elle a tout simplement les gencives trop enflées et infectées pour qu'on puisse les voir. Les dispensateurs de soins disent à l'hygiéniste dentaire que leur résidante n'a pas de partiel. L'hygiéniste dentaire découvre qu'elle en a et qu'il s'est fusionné dans le palais. Les hygiénistes dentaires recrutent des bénévoles pour brosser les dents des résidents parce que le personnel n'a pas le temps, mais la résidence est incapable d'offrir des gants protecteurs à ces bénévoles. Pourquoi est-ce

un tel mystère qu'un problème de la bouche puisse être la raison pour laquelle des personnes ne peuvent pas manger ou peuvent avoir des infections non spécifiques qui refusent de guérir ? Est-ce une question de temps ? Est-ce une question de ne pas vouloir admettre que les aspects les plus élémentaires des soins sont négligés parce qu'on ne perçoit pas l'impact significatif qu'ils peuvent avoir sur la qualité de vie des résidents ? Les corridors sont-ils remplis de Mr. Magoo ? Il est facile de négliger ce qu'on ne peut voir. J'applaudis aux efforts de toutes les hygiénistes dentaires qui dessillent les yeux des pourvoyeurs de soins, en réduisant leur ignorance et en prenant soin de la personne tout entière qu'elles voient dans le cours de leur pratique dans les résidences.

L'ACHD poursuivra son travail pour supprimer les barrières qui empêchent les hygiénistes dentaires d'utiliser leurs connaissances et leur savoir-faire pour faire cesser les répétitions de ces histoires d'horreur.

GUIDELINES FOR AUTHORS

MISSION STATEMENT

The mission of *Probe* (scientific issues) is to provide a forum for the dissemination of dental hygiene research to enrich the body of knowledge within the profession. Further, the intent is to increase interest in, and awareness of, research within the dental hygiene community.

POLICY STATEMENT

Probe (scientific issues) invites manuscripts relevant to dental hygiene research including theory development, education, and practice. Preference is given to manuscripts that address current issues, make a significant contribution to the body of knowledge of dental hygiene, and advance the scientific basis of practice.

A manuscript submitted to *Probe* (scientific issues) for consideration should not have been submitted or published elsewhere in any written or electronic form, nor should it be currently under review by another body. This does not include abstracts prepared and presented in conjunction with a scientific meeting and subsequently published in the proceedings.

Manuscripts reporting empirical studies should provide comprehensive descriptions of the research design and methods. The results and conclusions should be clear and supported by valid and reliable data. Manuscripts developing theory or discussing epidemiological or methodological issues should be appropriately illustrated and documented.

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Each initial submission must include 4 hard copies of the manuscript, double-spaced, single-sided, with title page, key words, abstract, text, acknowledgments, references, tables, figures, and illustrations (with legends), each beginning on a new page.

Submissions must include electronic files in WordPerfect or Microsoft Word format. PC files and PC diskettes or zip disks are preferred, but the CDHA will also accept Mac versions. Please indicate the software version and platform on all disks.

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- results: the primary statistical report
- conclusion: what the authors have derived from these results

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or

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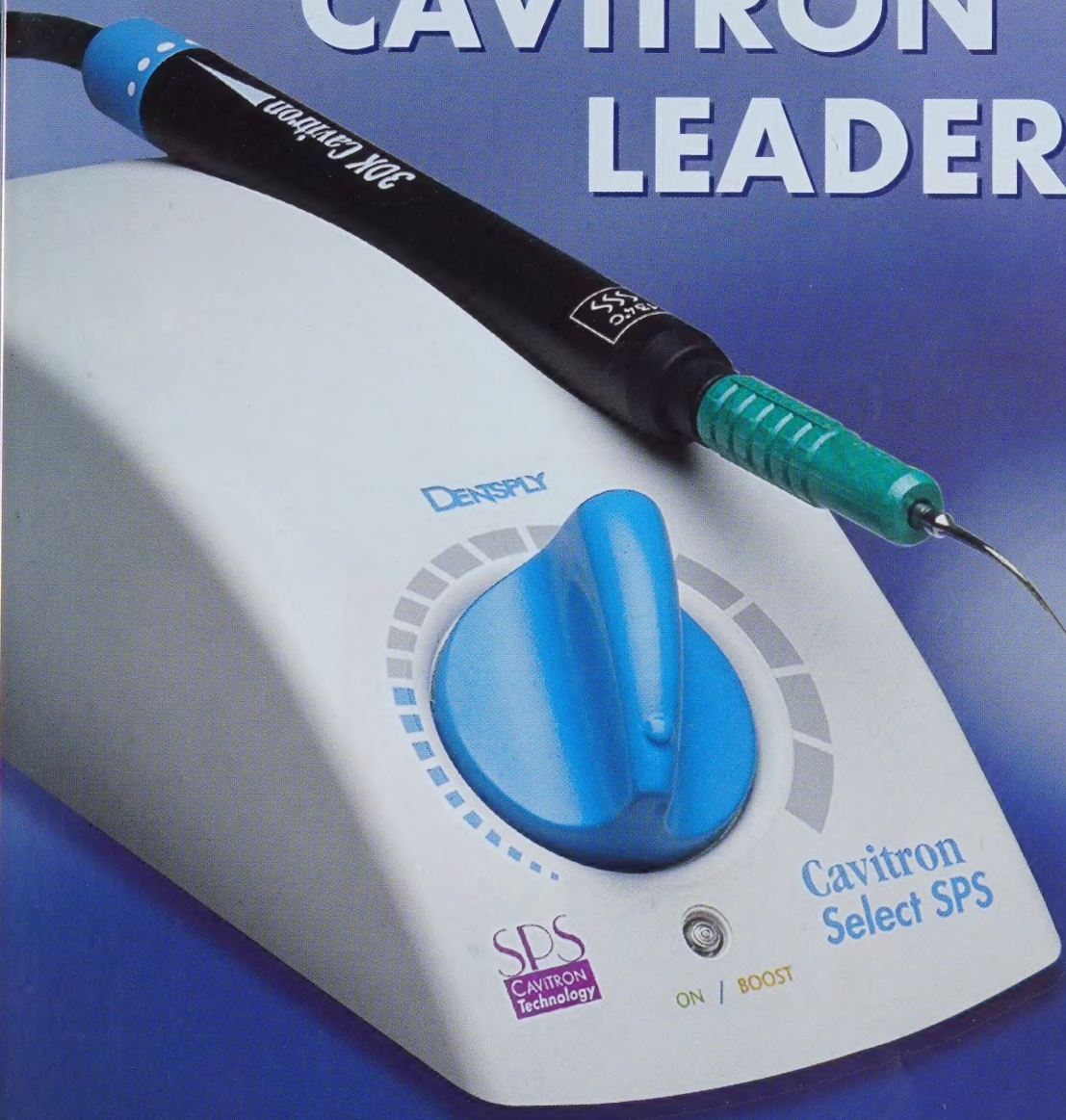
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JULY/AUGUST 2002

de l'Association canadienne des hygiénistes dentaires

VOL. 36 NO. 4

Community connections

home and abroad



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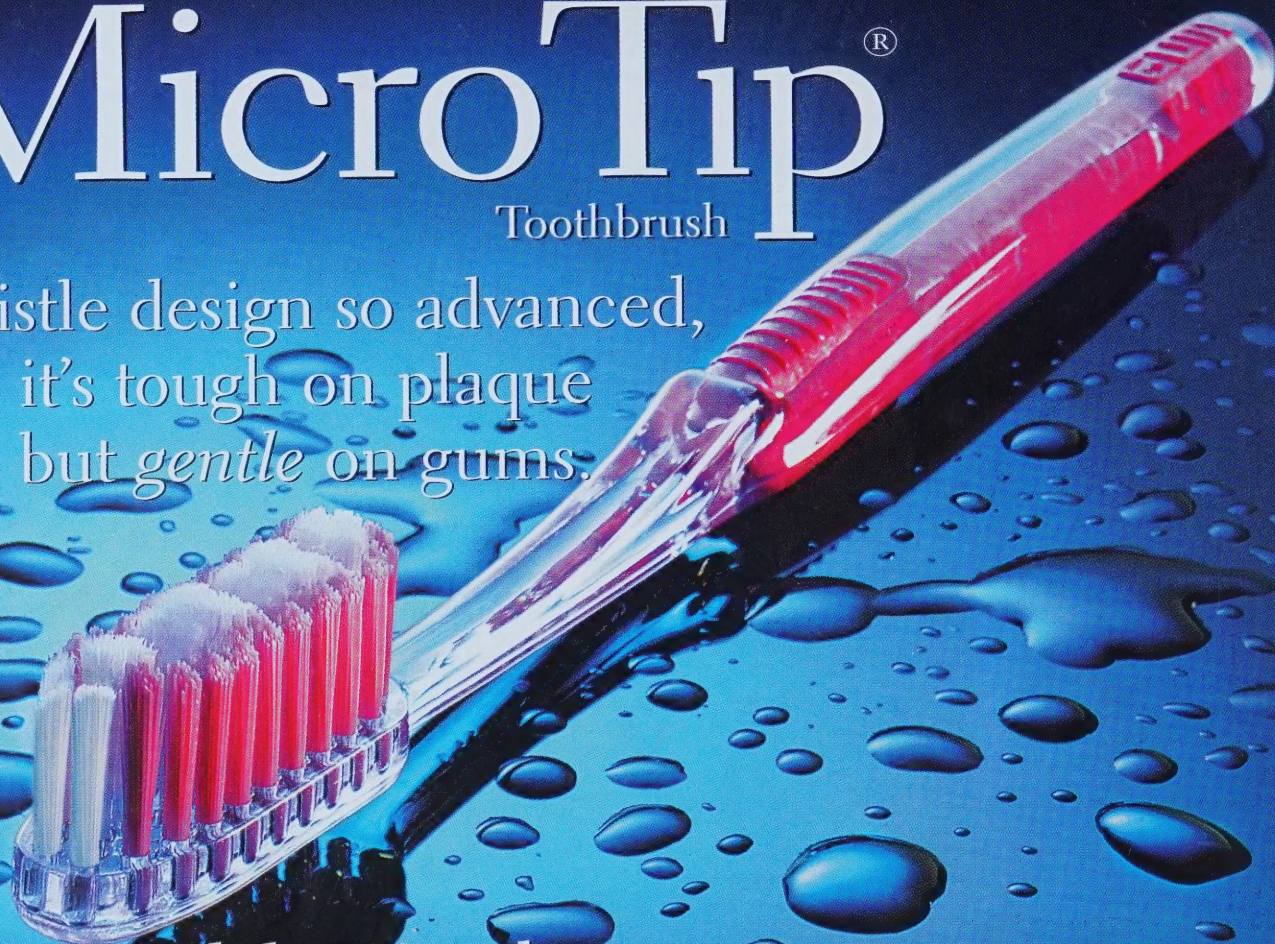
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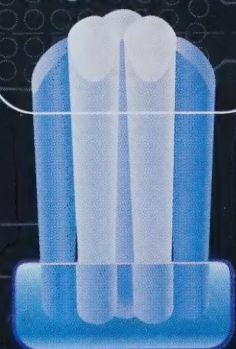
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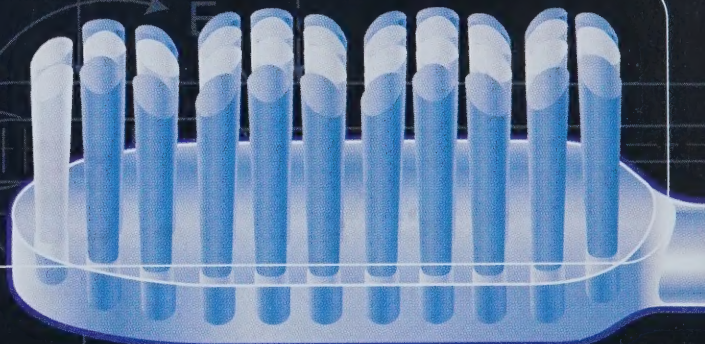


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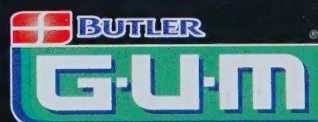
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The Dental Hygiene Community Is Alive and Well

by Barbara Gibb, RDH

The words "community" (an interacting population of various kinds of individuals in a common location or profession) and "support" are for me inextricably linked. A community thrives when its members are involved—with each other—in striving to meet new challenges, supporting and championing one another, and celebrating individual and group victories. What differentiates the successful organizations and communities from the unsuccessful is the individual involvement of members.

We have an opportunity and a responsibility to interact with one another. And we can do this in person and also virtually through the members' section of the CDHA web site where you can stay in touch, offer guidance, mentoring, information, and ideas. Respond with your ideas and expertise when CDHA solicits comments on position statements. It is an opportunity for you to make a contribution to your professional community. Dental hygienists get involved in numerous fundraising and community events. In making a contribution to their local community, they raise the profile of the profession. All sorts of individuals are needed in various capacities to ensure a thriving community. Start small by accepting a lesser (but no less important) role—be it assisting at a mall presentation, joining other dental hygienists in the Run for the Cure, or serving on a task force or welcoming committee at a local meeting. You may find the rewards of camaraderie and the sense of accomplishment lead you to accept bigger and bigger challenges, so there will be individuals prepared to move into leadership positions. I believe the driving force in a community is the combined efforts of individuals who get involved in whatever capacity their time or talents allow.

Feeling isolated in our issues can be frustrating, disheartening, and difficult. Sharing the challenge lightens the burden and often helps in solving the issue. As a community of professionals, I believe we must rally around our colleagues in their challenges because most issues will affect us at some point, directly or indirectly. At a provincial presidents' meet-

THE DENTAL HYGIENE COMMUNITY... continued on page 134



La collectivité des hygiénistes dentaires est vivante et se porte bien

par Barbara Gibb, RDH

Les mots "collectivité" (population composée de différentes sortes de personnes qui interagissent dans un lieu ou une profession qu'elles ont en commun) et "soutien" sont, pour moi, inextricablement liés. Une collectivité s'épanouit lorsque ses membres sont occupés, les uns avec les autres, à essayer de relever de nouveaux défis, de se soutenir et de se défendre les uns les autres, et à célébrer les

victoires individuelles et les victoires du groupe. Ce qui différencie les organisations et les collectivités qui réussissent de celles qui échouent, c'est l'engagement individuel des membres.

Nous avons l'occasion et la responsabilité d'interagir les uns avec les autres. Et nous pouvons le faire en personne, et virtuellement aussi par le truchement de la section du site web de l'ACHD réservée aux membres, où vous pouvez rester en contact, offrir des conseils, jouer un rôle de mentor et prodiguer informations et idées. Répondez avec vos idées et votre expertise lorsque l'ACHD sollicite des commentaires sur les énoncés de position. C'est là l'occasion qui vous est offerte de faire une contribution à votre collectivité professionnelle. Les hygiénistes dentaires s'impliquent dans de nombreuses activités de levée de fonds et activités communautaires. En apportant une contribution à leur collectivité locale, elles rehaussent le profil de la profession. Tous sortes de personnes sont nécessaires en diverses capacités pour faire en sorte qu'une collectivité s'épanouisse. Commencez modestement en acceptant un rôle de moindre envergure (mais pas moins important pour autant), qu'il s'agisse d'aider à une présentation au centre

commercial, de se joindre à d'autres hygiénistes dentaires dans la Course pour la guérison, ou de siéger à un groupe de travail ou à un comité d'accueil lors d'une réunion locale. Vous pouvez trouver que les récompenses de la camaraderie et le sens de l'accomplissement vous conduiront à accepter

LA COLLECTIVITÉ DES HYGIÉNISTES DENTAIRES ...
suite à la page 140



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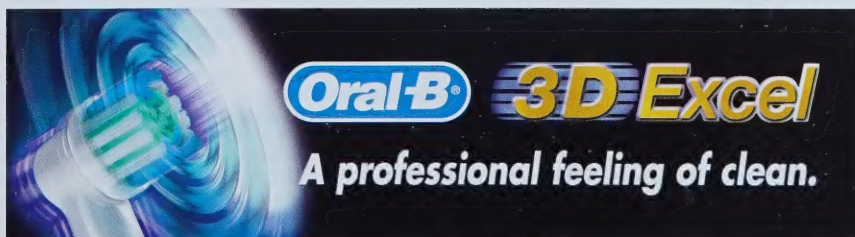
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Helen Bishop MacDonald, RD, MSc, FDC
Director, Nutrition, Dairy Farmers of Canada



THEY'RE BAAAAACCCCKKK!

You gotta give the animal rights groups "A" for effort. Now they're telling kids that milk and milk products are the culprits behind pimples, gas, mucus and obesity. What nonsense. At least they're not claiming milk causes warts and hair loss!

Milk doesn't cause acne

A disorder of the sebaceous gland, acne is likely associated with hormonal fluctuations, genetic susceptibility, skin type, exposure to environmental pollutants and perhaps even stress or excessive heat. But it has never been shown to result from dietary habits — good or bad. There is absolutely no scientific proof linking acne to food, including chocolate, nuts and milk products.¹

Milk doesn't cause gas

Beans do (but nobody says not to eat them). It's trendy to blame gastrointestinal distress on milk products, but even people who believe they are severely lactose intolerant can comfortably drink a glass or two of milk (250 mL milk, 12 g

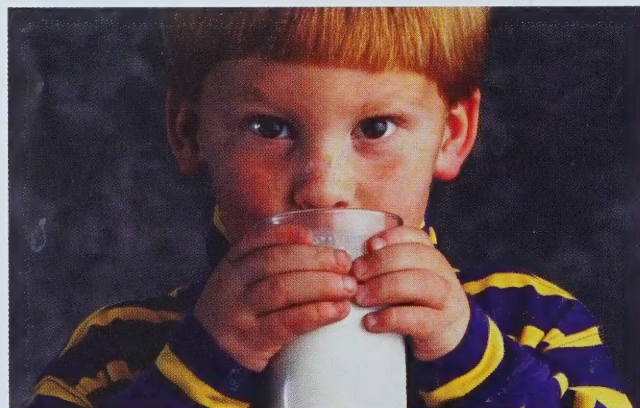
lactose), especially when accompanied by food.²⁻⁴ New research shows that symptoms of lactose intolerance decrease with age,⁵ but kids have a ways to go before old age sets in. Meanwhile, believe it or not, their best defence is consuming dairy. That's because the colon adapts to continued exposure to lactose, thereby reducing symptoms.⁶⁻⁸

Milk doesn't cause mucus

Studies exposing volunteers to a rhinovirus show that those who believe milk causes mucus do report more cough and congestive symptoms when drinking milk, but they don't actually produce more nasal secretions.^{9,10} Moreover, when soy is substituted for milk, the symptoms — and the perceptions — are identical.¹¹ In fact, preliminary data from Australia indicate that whole milk actually appears to be protective against asthma in young adults, while soy beverage does not.¹²

Milk doesn't cause obesity

In fact, it may actually help prevent it. Dietary assessment studies have shown a strong inverse association between calcium intake and body fat in men and women, while clinical data have demonstrated that combining increased calcium with a calorie-reduced diet results in significant reductions in fat tissue mass in the obese.¹³ There is also evidence that dairy calcium lowers body fat in young children¹⁴ and helps prevent weight gain in young women.^{15,16} Why? It appears that while diets low in calcium increase the body's efficiency at storing calories as fat, diets high in calcium increase the body's ability to burn calories.



Milk does help build strong teeth; it does **not** cause pimples, gas, mucus or obesity.

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The Canadian Dental Hygienists Association's Journal, *Probe*, is the official publication of the CDHA. The CDHA invites submissions of original research, discussion papers, and statements of opinions pertinent to the dental hygiene profession. All manuscripts are refereed anonymously. Contributions to *Probe* do not necessarily represent the views of the CDHA, nor can the CDHA guarantee the authenticity of the reported research. Copyright 2001. All materials subject to this copyright may be photocopied for the non-commercial purpose of scientific or educational advancement.



"Reaching Families with Young Children"

FEATURE ARTICLES

- 141 Oral Health and Diabetes: Key Points to Educate the Client**
by Katharine Cashman, BSc, RDH

- 145 "Reaching Families with Young Children": A Community Dental Health Project for Preventing Early Childhood Caries**
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ERRATUM

In the Guest Editorial of the May/June 2002 *Probe*, page 78, 30-40 cm² was converted incorrectly; 30-40 cm² is in reality about 4.6-6.2 in².

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1. Warren, PR et al. *Am J Dent* 2001;14:3-7. 2. van der Weijden, GA et al. *J Dent Res* 2001;80(Spec.Iss):119, Abstr.672.
3. Sharma, NC et al. *J Dent Res* 2001;80(Spec.Iss):548, Abstr.171. 4. Braun Oral-B 2001 Professional Use Test:
3D Excel vs. sonicare PR4.

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EXECUTIVE DIRECTOR'S MESSAGE

MESSAGE DE LA DIRECTRICE GÉNÉRALE

What is a Community? Qu'est-ce qu'une collectivité?

by Susan Ziebarth, CDHA

par Susan Ziebarth, ACHD

Life is lived in common, but not in community.

— Michael Harrington



Community might be defined as a body of people having something in common, such as geography, a profession, or even an illness. But it takes more than commonality to make a community, something noted in the above quotation by Michael Harrington (from *The Other America*, 1962). This issue of *Probe* focuses on the dental hygienist's role in the community as a facilitator of oral health. As you are reading the articles, think about what these dental hygienists bring to the community—and the values they embrace and exhibit in their work.

One of the characteristics of a community is a code of ethics. What is right? What is wrong? How do we sort out the stuff in the middle? CDHA has in the past few months revised the *Code of Ethics* for the dental hygiene community. We will be sending you a copy with your next issue of *Probe*. However, in the meantime, please visit our web site, <www.cdha.ca>, or <www.preventionprofessionals.com> to review the revised code. Our annual professional conference this September in Moncton, New Brunswick, will also feature a workshop on the new code to help participants sort out the “stuff in the middle.”

What are some other features of a community? Some people might argue that autonomy of the group defines it as a community. In this country, currently more than 90 per cent of dental hygienists are responsible and accountable directly to the clients they serve. CDHA has been actively assisting the remaining five provincial associations who have yet to achieve self-regulation to meet their goals. Many volunteers and many hours of hard work are enlightening the powers-that-be to the fact that dental hygien-

La vie se vit en commun, mais pas en collectivité.

— Michael Harrington

On pourrait définir la collectivité comme un ensemble de personnes qui ont quelque chose en commun, comme la géographie, une profession, ou même une maladie. Mais il faut plus qu'un élément commun pour constituer une collectivité, il faut quelque chose qui est noté dans la citation de Michael

Harrington, ci-dessus, (tirée de *The Other America*, 1962). Ce numéro de *Probe* porte sur le rôle de l'hygiéniste dentaire dans la collectivité en tant que facilitatrice de la santé buccale. En lisant les articles, pensez à ce que les hygiénistes dentaires apportent à la collectivité, et aux valeurs qu'elles embrassent et dont elles font montre dans leur travail.

Une des caractéristiques d'une collectivité est un code de déontologie. Qu'est-ce qui est bien? Qu'est-ce qui est mal? Comment classer ce qu'on trouve “en sandwich au milieu”? Au cours des derniers mois, l'ACHD a révisé le *Code de déontologie* de la collectivité des hygiénistes dentaires. Nous

vous en ferons parvenir un exemplaire avec votre prochain numéro de *Probe*. Cependant, entre temps, vous pouvez visiter notre site web <www.cdha.ca>, ou encore <www.preventionprofessionals.com>, où vous pourrez consulter le code révisé. Notre conférence professionnelle annuelle, qui aura lieu en septembre prochain à Moncton (Nouveau-Brunswick), présentera également un atelier sur le nouveau code pour aider les participantes à classer ce qu'on trouve “en sandwich au milieu”.

Quelles sont certaines des autres caractéristiques d'une collectivité? D'aucuns pourraient prétendre que l'autonomie du groupe définit celui-ci comme collectivité. Dans notre pays, plus de 90 p. cent des hygiénistes dentaires sont présentement responsables et redevables de leurs actes directement aux clients qu'elles desservent. L'ACHD a

This issue of *Probe*

focuses on the

dental hygienist's

role in the commu-

nity as a facilitator

of oral health.

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activement aidé les cinq associations provinciales restantes, qui ne sont pas encore parvenues à l'auto-réglementation, à atteindre leurs buts. Les nombreuses bénévoles et les nombreuses heures de dur travail montrent bien aux pouvoirs en place que les hygiénistes dentaires sont des professionnelles qualifiées et sûres qui pourraient répondre directement de leurs actes au public. Ces bénévoles, travaillant ensemble vers un but commun, démontrent aussi une autre caractéristique d'une collectivité : le soutien mutuel.

L'apprentissage les uns des autres est une autre chose dont nous bénéficions comme membres d'une collectivité. Il est parfois difficile de savoir où commencer lorsque vous cherchez une personne experte pour vous aider. L'ACHD aimerait vous faciliter la capacité d'apprendre de vos pairs. Oubliez les limites physiques de la collectivité géographique. Accédez à la portion *Membres seulement* de votre site web et localisez des collègues qui ont identifié leurs domaines d'expertise. Partagez les succès les uns des autres et découvrez des ressources encore jamais exploitées.

Ce numéro de *Probe*

porte sur le rôle de

l'hygiéniste dentaire

dans la collectivité

en tant que

facilitatrice de la

santé buccale.

Vous pouvez également partager un événement avec vos collègues. Si vous organisez une activité, ou si vous savez qu'il y en a une qui se prépare et qui pourrait se révéler instructive pour d'autres membres de la collectivité des hygiénistes dentaires, partagez-en les détails à l'aide du formulaire en ligne pratique dans la partie *Calendrier d'activités* de la section réservée aux membres de notre site web. Si vous êtes à la recherche d'une activité, cherchez par province, par ville ou autres catégories, pour trouver ce que vous cherchez.

Les collectivités célèbrent leurs succès. L'ACHD et plusieurs associations provinciales le font sous la forme de membres à vie, de prix décernés pour services distingués, de bourses d'études et de prix de sensibilisation à l'hygiène dentaire. Y a-t-il des leaders que vous aimeriez reconnaître ? Veuillez communiquer avec nous, notez les annonces dans *Probe*, ou cherchez sur le site web les lignes directrices concernant les mises en candidature et les prix.

Une collectivité a besoin d'une voix : l'ACHD est au service des membres de sa collectivité comme la voix collective des hygiénistes dentaires au Canada. Nous nous soutenons les uns les autres dans l'élaboration d'énoncés de position et de positions politiques au niveau national pour aider les hygiénistes dentaires à servir le public canadien. Cette année, nous nous sommes adressées au comité des finances du gouvernement fédéral et avons fait des présentations aux commissions Romanow et Kirby. Pour obtenir des rapports complets de ces présentations, veuillez consulter le site web. Vous pouvez également référer les clients et autres intéressés à la partie publique du site web où ces rapports sont affichés. Nous avons produit une annonce de télévision nationale sur la profession de l'hygiène dentaire pour sensibiliser davantage le public au rôle important que vous jouez dans les soins de santé. Nous vous aidons également à informer vos clients de leurs droits aux services d'une professionnelle qualifiée par le truchement de la brochure *La charte des droits du client de l'hygiéniste dentaire*, publiée dans le numéro de janvier/février 2002 de *Probe*, et également disponible en format imprimable sur le site web.

Une collectivité s'efforce d'apporter des bénéfices à tous ses membres. L'ACHD le fait par des programmes d'assurance professionnelle et en offrant des programmes d'affinité comme nos régimes d'assurance incapacité, d'assurance maison et auto, et nos programmes d'investissement. Nous réexaminons présentement tous nos programmes et nous aurons quelques annonces de nouvelles offres à faire au cours des prochains mois.

Nous sommes toutes membres d'un certain nombre de collectivités. Devenez une participante active dans notre collectivité de l'hygiène dentaire et aidez-nous toutes à apprendre les unes des autres et à partager les unes avec les autres. Ne nous contentons pas du seul fait d'avoir l'hygiène dentaire en commun. Soyons partie de la collectivité. Ajoutons à la voix de l'hygiène dentaire.



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Community Connections

by Laura MacDonald, DipDH, BScD, MEd

The profession of dental hygiene is devoted to promoting optimal oral health for all.¹ There are several key words in this statement: profession, dental hygiene, devoted, promoting, oral health, all. They are good, powerful, influential words. Strung together, connected, they speak loudly about the essence of the dental hygiene profession—the health care profession whose purpose and expertise is in the health care field of oral disease prevention (including therapeutic intervention) and oral health promotion.

Ensuring access to dental hygiene care is embodied in the words “devoted to promoting optimal oral health for all.” The majority of the profession offer their knowledge and distinct expertise to their clients through private dental and/or dental hygiene practices, thus promoting oral health for many. There are also dental hygienists who do this by reaching beyond the traditional oral health care system and venturing into the community, embracing the community from within. This editorial, this issue of *Probe*, is about them—it is about their story. They speak the “we” language, promoting optimal oral health for the “many others” by establishing connections with the community, collaborative initiatives with associations, governments, and organizations—knowing they have the knowledge, expertise, and the mandate to share that with “the people.”

In this issue of *Probe*, Jane Waites and her co-authors welcome you into a community partnership that a team, made up of her and her colleagues, has made with persons with Lou Gehrig disease. You will also read about other fellow dental hygienists who have connected with communities and/or groups of people far and wide. These colleagues of ours model the Population Health approach to oral health care; that is, they are taking action and employing strategies to address the known broad determinants of health as presented by Health Canada: income and social status, social support networks, education, employment and working conditions, physical environments, biology and genetic endowment, personal health behaviours versus coping skills, healthy child development, health ser-



“The profession of

dental hygiene is

devoted to pro-

moting optimal oral

health for all.”

vices.² They are responding to one of the known disparities in oral health, that is, “persons who are medically compromised or who have disabilities are at greater risk for oral diseases, and, in turn, oral diseases further jeopardize their health.”³ These dental hygienists are pioneering the way for the development of Population Health frameworks for action to prevent oral disease, promote oral health, and health in general, for all.

Population Health recognizes that health care must be more than that which has traditionally existed and has been called health care.² The health care system, oral health included, has historically been a responsive system, responding to the existence of disease, treating the disease. Population Health challenges the health professional community to broaden its position to not only treat existing disease, but also to recognize and respond proactively to the broad determinants of disease. Population Health purposes that although health behaviours and biological and genetics factors play major roles in the onset and progression of disease, so do social and economic variables. The more educated the individual, the more quality social support networks the person has to draw on, the greater the likelihood the person will know how to take action in preventing disease and promoting health.

“The profession of dental hygiene is devoted to promoting optimal oral health for all.”¹ Our profession is not the keeper of the knowledge and expertise; it is the deliverer of oral disease prevention and oral health promotion. In being the deliverer, the messenger, the dental hygiene profession brings the message to the people, whoever they are, wherever they are. For some, this care is accessible through the private practice avenue; for many it is by way of community connections—strong and effective determinants of health. Enjoy the stories shared in this issue of *Probe* by colleagues in dental hygiene who are connecting with you, the dental hygiene professional community.

1. Canadian Dental Hygienists Association: *Code of Ethics*. Ottawa: CDHA, 2002

2. Health Canada: “Executive Summary.” *Population Health*. Ottawa: Minister of Health, 1994

3. U.S. Department of Health and Human Services: “Executive Summary.” *Oral Health in America: A Report of the Surgeon General*. Rockville, MD: USDHHS, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000

Notice

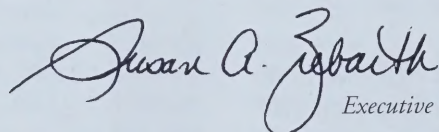
NOTICE OF ANNUAL MEETING OF MEMBERS OF CANADIAN DENTAL HYGIENISTS ASSOCIATION (CDHA)

NOTICE is hereby given that the annual meeting of the members of the CANADIAN DENTAL HYGIENISTS ASSOCIATION will be held at Delta Beauséjour, 750 Main Street, Moncton, New Brunswick, on Sunday the 22nd day of September, 2002, at the hour of 8:30 o'clock in the forenoon, to:

- I. receive the financial statement of the corporation for the fiscal period ended April 30, 2002 and the report of the auditors thereon;
- II. appoint auditors and authorize the directors to fix the remuneration of the auditors; and
- III. transact such further and other business as may properly be brought before the meeting or any adjournment thereof.

Copies of the financial statements and the auditors' report are available for review at the corporation's head office during normal business hours.

DATED the 26th day of July, 2002.
BY THE ORDER OF THE BOARD OF DIRECTORS


Executive Director

Avis

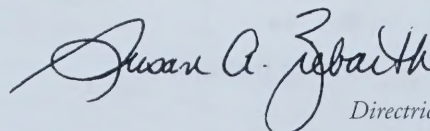
AVIS DE CONVOCATION DE L'ASSEMBLÉE ANNUELLE DES MEMBRES DE L'ASSOCIATION CANADIENNE DES HYGIÉNISTES DENTAIRES (ACHD)

AVIS est par les présentes donné que l'assemblée annuelle des membres de L'ASSOCIATION CANADIENNE DES HYGIÉNISTES DENTAIRES aura lieu à l'Hôtel Delta Beauséjour au 750, rue Main, à Moncton (Nouveau-Brunswick) le dimanche 22 septembre 2002, à 8 h 30. En voici l'ordre du jour:

- I. recevoir l'état financier de l'Association pour l'exercice ayant pris fin le 30 avril 2002 et le rapport des vérificateurs à ce sujet;
- II. nommer les vérificateurs et autoriser les administrateurs à fixer la rémunération des vérificateurs;
- III. régler toute autre question dûment soulevée à l'assemblée annuelle ou à toute nouvelle assemblée convoquée en cas d'ajournement de l'assemblée annuelle.

Des exemplaires des états financiers et du rapport des vérificateurs peuvent être examinés au siège social de l'Association pendant les heures d'affaires ordinaires.

FAIT le 26 juillet 2002.
PAR DÉCRET DU CONSEIL D'ADMINISTRATION


Directrice générale

Due to space constraints, Ends Policy E1 – Mission/Purpose, and Ends Policy E2 – Priorities will be published in the September/October issue of *Probe*.

Although summer has just arrived, the CDHA Membership team is already working on the 2002–2003 Membership Renewal Drive that will take place in September. As the only national association for dental hygiene in Canada, the CDHA is dedicated to advancing the profession and protecting the interests of all its members. As a member of the CDHA, you are an important partner in the dental hygiene community; you are part of the collective voice and vision of dental hygiene in Canada!

What does being a partner in the dental hygiene community mean? What concrete benefits do you receive through your CDHA membership? As a CDHA member, you have access to a broad range of benefits, such as:

Networking and recognition: – Membership in CDHA offers you opportunities for networking and professional recognition. Through events such as the annual conference, national communication campaigns, and National Dental Hygienists' Week, you have the opportunity to network one-on-one with other members of your professional association. On-line communication tools and resources, such as "Find a Member" in the *Members Only* section of the CDHA web site, let you connect at any time with other members of the dental hygiene community to share common experiences, expertise, and practices. Awards, grants, and scholarships available exclusively to CDHA members recognize and reward those individuals who, through their leadership and dedication, have contributed to the profession of dental hygiene.

Professional development: – Membership in CDHA allows you to stay abreast of the latest scientific trends through a variety of forums: workshops and conferences; the CDHA Membership Resource Centre, which offers a broad variety of publications, products, and services to help its members; *Probe*, a professional journal that provides members with the most up-to-date scientific and technical developments in dental hygiene.

Meaningful insurance coverage: – Active membership in CDHA gives you the security of knowing you are protected when providing services to the public through liability (malpractice) insurance and disciplinary/sexual abuse defence cost insurance. (Please note that proof of malpractice insurance is required in Ontario, British Columbia, Alberta, and Saskatchewan.)

Membership in CDHA also provides you with access to the diverse insurance products offered through the Canadian Dental Hygienist Insurance Plan (CDHIP) at affordable rates. These insurance products include life, accidental death and dismemberment, extended health care, dental, long-term disability and critical illness insurance; commercial general liability (for self-employed members); group home and automobile insurance. The CDHA will be launching a new RRSP, Savings & Retirement Program on September 1, 2002. Watch for details in future *Probe* journals and on the CDHA web site.

The numerous benefits offered to CDHA members makes membership in your professional association an easy decision.

Membership renewal is just around the corner. A personalized Membership Renewal package will be sent in August to all of our members (except for those in Alberta and Saskatchewan). To ensure you receive your package with the least possible delay, please make sure the CDHA has your current mailing address. You may verify this by logging onto our web site (www.cdha.ca), *Members Only* section, where you can manage your own profile on-line. If you do not have Internet access, the CDHA Membership team would be pleased to assist you. Simply call us toll-free at 1-800-267-5235, Monday to Friday, 8:30 a.m. to 5 p.m. ET or leave us a message.

Alberta and Saskatchewan members: – Your membership renewal is administered through your provincial associations, the

ADHA and the SDHA. Your membership renewal package will be mailed to you in mid-September (ADHA) or the end of November (SDHA). Please contact your provincial association office directly for more information on membership renewal in your province.

Timelines

There are some important timelines we would like to highlight to ensure that your membership renewal is as seamless as possible. Please allow 4 to 6 weeks for your membership renewal to be processed *after it is received in our Processing Centre*. This may seem like a long time to process one renewal. But the CDHA is over 10,000 members strong, and our Processing Centre will be receiving and processing thousands of membership renewals over the period of a few weeks. Therefore do not delay in sending in your renewal. Once it has been processed, you will be mailed a Membership Package containing a membership acknowledgement letter confirming your renewal, your membership card, and your malpractice insurance certificate. You will also receive an official tax receipt once your membership payment is received in full.

Nova Scotia and Newfoundland members:

– The membership renewal processing timeline is especially important for you because membership is mandatory for practising dental hygienists in your provinces. Your regulatory bodies require proof of membership by November 30, 2002, so please do not delay in sending us your membership renewal.

The chart below outlines the renewal dates for each provincial regulatory body in the country. Please keep these dates in mind, as well as the processing timeline, when remitting your membership renewal.



Membership Renewal Drive 2002–2003

The CDHA is *your* professional association. There is strength in numbers! Maintain your membership with the CDHA and provide us with the strength to continue representing your interests and advancing your profession. Be a member of your dental hygiene community—renew your membership with the CDHA.

Renewal Dates for Regulatory Bodies

Alberta.....	November 1, 2002
Newfoundland.....	November 30, 2002
Nova Scotia.....	November 30, 2002
Ontario.....	January 1, 2003
New Brunswick.....	January 1, 2003
Manitoba.....	January 15, 2003
Saskatchewan.....	January 15, 2003
British Columbia.....	March 1, 2003
Prince Edward Island.....	April 1, 2003
Quebec.....	April 1, 2003

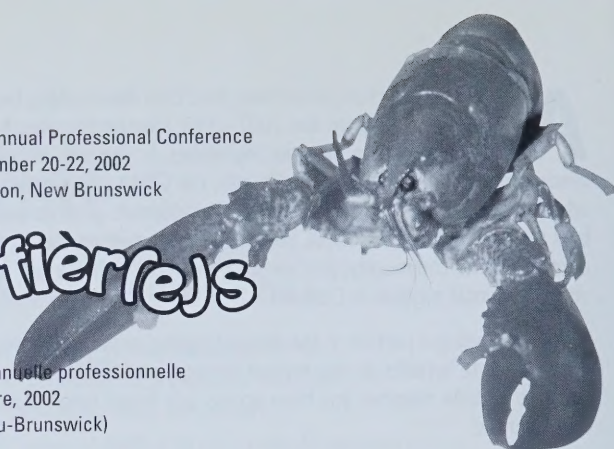


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Du 20-22 septembre, 2002
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CDHA 13th Annual Professional Conference
September 20-22, 2002
Moncton, New Brunswick

SATURDAY SEPTEMBER 21ST

Delta Beauséjour

SCIENTIFIC SESSIONS

• **Paradigm Shift in Early Caries Treatment: Emerging Concepts for the 21st Century**

— Jan Pimlott, DipDH, BScD, MSc

The incidence of dental caries has decreased during the last several decades; however, we still have a long way to go in eliminating this widespread oral disease. Improved risk assessment techniques, early diagnosis, and preventive therapies will reduce the need for surgical intervention. Dental hygienists have a vital and essential role in caries risk assessment and planning and implementing preventive management strategies.

• **Cardiovascular Health and Oral Hygiene**

— Dr. Michel D'Astous, MD, FRCPC

This session will examine the role of good dental hygiene to prevent heart disease, the role of bacterial endocarditis prophylaxis, and the management of cardiac drugs, such as anticoagulants and ASA, during dental manipulation. Sponsored by Sun Life Financial. *Note: Cette séance sera aussi offerte en français.*

• **Consumer Oral Health Care Products: Product Trends, the Evidence, and Future Directions**

— Jan Pimlott, DipDH, BScD, MSc

How do you know which consumer products to recommend? Explore the effectiveness of commercially available products such as oral rinses, whiteners, and powered toothbrushes. Discover the mechanism of action, effectiveness, product trends, and the state-of-the-evidence.

• **Alternate Practice Settings for Dental Hygienists**

— Pran Manga, PhD, MPhil

There are good and persuasive arguments for permitting dental hygienists several alternate practice settings other than the conventional one of working for dentists as employees. Their alternate practice settings will achieve several very important public policy objectives that are not met currently.

• **Nutritional Influences on Dental Hygiene**

— Peter Ford

This session will provide participants with ideas on developing good dental hygiene with the aid of nutraceuticals. The issues of mercury and fluoride and their potential dangers will also be discussed.

• **Relationships between Oral Health and the Aging Individual**

— Terry Mitchell, BSc, RDH, MEd

This session will explore anticipated and non-anticipated changes that occur with the aging and their interrelationships with oral health. Suggestions for dental hygienists providing care for the older population will be highlighted.

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THURSDAY SEPTEMBER 19TH

Delta Beauséjour, Moncton, NB

The Dental Hygiene Educators of Canada (DHEC) will be hosting a workshop entitled "Internet Surfing for Dental Hygiene Educators" in conjunction with the CDHA convention. This workshop will focus on working with the Internet and will be useful for dental hygiene educators and members of the dental hygiene profession. The workshop is open to members and non-members of DHEC. Prior to the workshop, the Heads of Dental Hygiene Programs will have a meeting and luncheon. The DHEC Annual General Meeting will be held from 4 p.m. to 5:30 p.m., followed by a wine and cheese social. For further information, please contact Evie Jesin at (416) 415-4560 or by e-mail at <ejesin@rogers.com>.

FRIDAY SEPTEMBER 20TH

Delta Beauséjour

- Opening Ceremonies
- Welcome Reception with live entertainment by local artists



• **Floss or Die**

– Marilyn Goulding, RDH, BSc, MOS

Oral microbes take up residence within the threshold of the body. Are we surprised that recent evidence has implicated them as contributing to overall systemic health complications? In this session the more serious health concerns that may arise from, or be compromised by, poor oral hygiene will be explored. These include cardiovascular complications, pulmonary diseases, birth complications, and diabetes. Following this session, you should be able to explain those newspaper headlines to your clients: "Floss or Die!"

CDHA Code of Ethics Workshop

– Nancy Neish, DipDH, BA, MEd, and
Laura MacDonald, DipDH, BScD, MEd (Facilitators)

The CDHA *Code of Ethics* helps define dental hygiene as a profession. It provides dental hygienists with information regarding their responsibilities, expected behaviour, and professional conduct and empowers them to practise in accordance with professional principles and standards. This interactive session will assist participants in using the new *Code of Ethics* as a problem-solving tool when faced with ethical dilemmas in their day-to-day work life.

Community Connections

Join us for Community Connections, an opportunity for those in community and non-clinical practice to connect with your colleagues, to hear about program innovations, and to share your expertise.

SATURDAY EVENING

Experience East Coast hospitality at its best with our Maritime Kitchen Party, with live music and entertainment by comedy character Jimmy the Janitor.

SUNDAY SEPTEMBER 22ND

Delta Beauséjour

• **Annual General Meeting, followed by Town Hall Meeting**

• **Un tour de table sur le blanchiment à la maison**

– Sylvie Martel, HD

Les procédures esthétiques occupent une place de plus en plus grandissante dans le monde dentaire et le blanchiment des dents, en fait partie. Cette formation abordera : l'historique des agents de blanchiment, les propriétés chimiques, la sécurité des produits, les critères de sélection des clients, les techniques d'emploi et l'éducation reliée aux différents régimes de traitement à la maison. Le but ultime est de permettre aux participants d'être en mesure d'orienter sa clientèle vers le meilleur système de blanchiment en fonction de ses besoins.

• **Community Connections**

Keynote speech sponsored by Crest, Platinum Sponsor of the CDHA 13th Annual Professional Conference

• **KEYNOTE SPEECH – Dr. Robert Buckman**
"Communication Skills for the Healthcare Professional"

Dr. Robert Buckman, a medical oncologist at Toronto's Sunnybrook Cancer Centre, knows communication has always been of critical importance. As Associate Professor at the Faculty of Medicine of the University of Toronto, Dr. Buckman is one of the



Dr. Robert Buckman

leading clinical researchers in communications theory. He has designed an innovative course on the subject of doctor-patient relationship, particularly with respect to breaking bad news to patients and their families, and the supportive care of the dying and their families. He also produced an award-winning set of training videos (*Why Won't They Talk To Me?*) in collaboration with his long-time friend John Cleese of Monty Python fame. The course won him the prestigious Aikins Teaching Award in 1989. Not surprisingly, his high-energy flair and quick humor has led him to a 20-year television and authoring career. Dr. Buckman is a dynamic, confident, and extremely lively speaker. He will be talking to the conference attendees about "Communication Skills for the Health Care Professional" on Sunday morning.

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• **Closing Ceremonies**

REGISTRATION

To register for the CDHA 13th Annual Professional Conference, please visit our web site at www.cdha.ca to print the registration form, or call the CDHA office at 1-800-267-5235. Registration closes September 6, 2002.



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New Research Proves Rinsing with Antiseptic Mouthwash is as Essential as Flossing

Three-Step Regimen of Brushing, Flossing, and Rinsing Helps Fight Plaque and Gingivitis

TORONTO, ON, March 8, 2002 – Data from two six-month clinical trials comparing the effectiveness of rinsing with an antiseptic mouthwash to daily flossing in fighting plaque and gingivitis are being presented today at the International Association for Dental Research (IADR) Annual Meeting. The two studies show that the antimicrobial action of Listerine® Antiseptic Mouthrinse is as essential as flossing in improving gingival health and plaque reduction, especially in hard-to-reach areas of the mouth.

"These studies finally validate the anecdotal evidence I have seen in clinical practice supporting the benefits of adjunctive antiseptic rinse therapy," says Dr. Barry Dolman, Montreal dentist and a past president of the Canadian Dental Association. "The results underscore the importance of daily rinsing within the context of the traditional brush and floss model of preventive care."

Key Findings

In both studies, Listerine was clinically comparable to flossing in controlling interproximal gingivitis and better for plaque reduction.

Interproximal plaque accumulation was reduced by 37.5% and 20.0% ($p < 0.001$), respectively, in patients who rinsed twice a day with Listerine. In comparison, those patients who flossed daily showed a 2.1% ($p = 0.305$) and 3.4% ($p = 0.134$) reduction in interproximal plaque accumulation. Both the Listerine and flossing groups included brushing with regular fluoride-containing toothpaste and were compared with a negative control treatment group that brushed and rinsed with a placebo rinse.

In addition to site-specific plaque reduction, patients who rinsed twice a day with Listerine showed a 7.9% and 11.1% ($p < 0.001$) reduction in interproximal gingivitis versus an 8.3% ($p < 0.001$) and 4.3% ($p = 0.006$) reduction in those who flossed daily.

"Unfortunately, despite years of preventive education, the realities of practice show a clear resistance from Canadians to embrace the use of dental floss," says Dr. Dolman. "However, with this research we now know that using an antiseptic mouthwash, such as Listerine,

gives us an effective tool to fight against plaque and gingivitis – and the facilitation of compliance should produce a significant reduction in dental disease."

Study Design

The two, six-month, randomized, evaluator-blinded, controlled, parallel group studies included more than 600 patients, ages 18 to 63, with mild through moderate levels of gingivitis (but without moderate or advanced periodontitis). The studies were conducted at two independent research facilities. Researchers at both institutions compared the efficacy of rinsing with Listerine to daily flossing in inhibiting supragingival dental plaque and gingivitis when used as an adjunct to tooth brushing.

To maximize compliance, subjects in the flossing group were provided a flossing demonstration by a dental professional and had to demonstrate correct flossing technique at baseline. All subjects were monitored monthly for compliance with their assigned regimen. Subjects then began their regimen of usual tooth brushing plus rinsing with their assigned mouthrinse (Listerine or placebo rinse) for 30 seconds, twice daily for 6 months, or tooth brushing plus flossing once daily. Patient re-examinations were conducted at three and six months post-baseline.

Implications for Oral Health Care

These studies further confirm Listerine's effectiveness on improving gingival health and plaque reduction on interproximal sites, which are typically considered hard-to-reach areas.

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For more information, or to arrange an interview, please contact:

Envionics Communications at (416) 920-9000
Heather Middleton, ext. 437 

Lead investigator: N. Sharma, D.D.S., B.D.S., F.D.S.R.C.S.

Study 1 **	Brushing plus Listerine	Brushing plus Flossing
Reduction in Plaque:		
Interproximal	37.5%*	2.1% ($p = 0.305$)
Whole mouth	41.4%*	2.9% ($p = 0.168$)
Reduction in Gingivitis:		
Interproximal	7.9%*	8.3%*
Whole mouth	15.2%*	10.5%*

* $p < 0.001$

** All comparisons were versus a negative control (brushing plus placebo rinse).

Lead investigator: S. Mankodi, D.D.S., M.S.D.

Study 2 **	Brushing plus Listerine	Brushing plus Flossing
Reduction in Plaque:		
Interproximal	20.0%*	3.4% ($p = 0.134$)
Whole mouth	20.7%*	3.2% ($p = 0.210$)
Reduction in Gingivitis:		
Interproximal	11.1%*	4.3% ($p = 0.006$)
Whole mouth	11.5%*	3.9% ($p = 0.012$)

* $p < 0.001$

The **ALS** Dental Hygiene Outreach Program

by Jane Waites, Diana Dumkos-Cuowie,
Cheryl Cancelli, and Penny Spacie

The Amyotrophic Lateral Sclerosis (ALS) Outreach Program is a volunteer program created and implemented by members of the York Region Dental Hygienists' Society, located north of Toronto, Ontario. We targeted a community subgroup of homebound ALS individuals. Many people with ALS (Lou Gehrig disease) are physically unable to provide their own oral hygiene care and have limited access to professional dental hygiene services because of inaccessible dental offices. Those with ALS rely on caregivers, including family members, who are lacking the proper information and skills to provide proper oral hygiene care to others. This results in poor or sometimes non-existent oral hygiene, which is itself a high risk for dental disease and other bacterial infections. Pneumonia is a high risk for persons with ALS due to existing compromised health. Excessive saliva and bacteria accumulation, inability to swallow, and oral complications due to medication contribute to increased dental disease.

The challenges in providing dental hygiene care to ALS patients include the patient's reduced ability to swallow; a strong gag reflex; limited jaw opening ability; muscle weakness; sporadic clenching of and grinding the teeth; and an inability to hold the head back without choking.

One of the primary objectives of the outreach program is to educate and train family members and caregivers to provide good oral hygiene. By providing a range of dental hygiene services, including assessment, scaling, and plaque removal, we are improving the quality of life, dignity, and self-esteem of these individuals with ALS.

How did the program begin?

Jane Waites, a dental hygienist in Aurora, Ontario, had a personal friend living with ALS. She realized that due to the debilitating nature of this disease, her friend could not get to a dental office for basic dental work and was not receiving adequate home care. Jane provided home dental hygiene care and taught her friend's wife to maintain dental hygiene, given the physical limitations that affect mobility, speech, and swallowing.

After seeing the positive impact on her friend's self-esteem and oral health, Jane realized that many others living with ALS must face similar challenges. So Jane developed this service for others and began a connection with the Toronto ALS



York Region Dental Hygienists' Society, ALS Outreach Program Team. Back row, L-R: Judy Gogo, Denise Burdon, Kathleen Irish-Mackey, Bessie Aprico-Moreno, Peggy Chamberlin, Joylin Chiang, Lisa Martin, Nancy Orschel. Front row, L-R: Jane Waites, Susan Wilson, Diana Dumkos-Cowie, Cheryl Cancelli

Society, which was thrilled to have dental hygienists interested in the health of their members. The York Region Dental Hygienists' Society developed a Community Oral Health Care Plan by identifying the problem, setting objectives, creating actions, and developing an evaluation process. Then we began matching dental hygienists with people living with ALS.

Objectives

The objectives of the ALS Dental Hygiene Outreach Program are to

- educate and train family members and caregivers to provide good oral hygiene, including brushing, flossing, antibacterial swabs, and various aids, depending on the client and the severity of the disease;
- provide educational workshops for ALS support groups;
- provide one-on-one oral hygiene education in the home;
- emphasize the importance to overall health of maintaining a healthy mouth;
- address poor oral hygiene and reduce the risk of complications, such as pneumonia, by providing scaling, de-plaquing, and oral hygiene instructions;
- provide an oral health assessment, plaque removal, scaling, oral hygiene instructions, and referral.

Actions

A key step in developing a program in your community is educating the volunteer dental hygienists on the special needs of clients with ALS. It is important to understand the difficulties faced by these clients and their family members. In York Region, the president of the Toronto ALS Society spoke to us twice about ALS. An experienced dental hygienist spoke to the group on the dental implications. We also spoke to many professionals involved in the care of ALS patients, at the yearly ALS conference at Sunnybrook Hospital, Toronto, in June 1999. A presentation was also given to a similar 1999 Ottawa conference. We continue to look for opportunities to speak to other ALS groups.

Presentations were given to various groups of dental hygienists, including the Community Connections Forum at the national CDHA conference in September 2001. In addition, guidelines were developed for in-home dental hygiene care of ALS clients. As part of this protocol, the dental hygienist must become familiar with the special needs of people living with ALS. The hygiene team consists of a lead hygienist who has experience with ALS and special needs, and a support hygienist who lends assistance. The support dental hygienist acquires the experience necessary to become a lead volunteer. We consider a two-person team to be a key factor in the success of this program.

A grief counsellor held a volunteer training session that focused on working with terminally ill clients, and how past experiences shape our feelings about working in this area. Volunteers found it very helpful, as some have faced the loss of a patient with whom they worked very closely. We discussed the different manifestations of grief and how we view death. Working with a terminally ill client affects each of us differently. Some people recognize that this type of work is not for them. The volunteers felt that although their involvement with this ALS program was a new experience and it was a challenge for some, it was also both personally and professionally rewarding and not as difficult as they thought.

Facts about ALS

- ALS is a rapidly progressive fatal neuromuscular disease; nerve cells degenerate and muscles are paralyzed.
- Generally the intellect and senses are unimpaired.
- ALS can strike anyone, male or female, any ethnic origin, or age.
- Usual onset is in middle age; however, some individuals are diagnosed when they are teenagers.
- ALS is usually fatal; 90 per cent lose their battle within five years but some live longer.
- Between 5 and 10 per cent of cases are hereditary.
- ALS is not contagious.
- Between 1,500 to 2,000 Canadians currently live with ALS.
- Every day, two to three Canadians die of ALS.
- ALS is the most common cause of neurological death.
- Every year more people die of ALS than cystic fibrosis and multiple sclerosis combined.

The ALS Dental Hygiene Outreach Program was also invited to the ALS Volunteer Investment Project, a Toronto conference focusing on celebrating and developing volunteers who are making a difference in their communities. The topics included fundraising, getting a message to your community, hospice care in Ontario, advocacy, facilitating skills and roles, and responsibilities of volunteers. The weekend was a great opportunity to learn new skills and network with other ALS volunteers from across the province. We received positive feedback that the ALS Dental Hygiene Outreach Program is desperately needed and appreciated.

Before any home visits began, a group of dental hygienists gave a presentation to an ALS support group on the importance of dental hygiene care. It included hands-on training for ALS patients, family, and caregivers.

The ALS Dental Hygiene Outreach Program relied on donations from Butler, individual dental hygienists, and dentists who provided sterilization and supplies. In addition, the York Region Dental Hygienists' Society raised funds and donated equipment to the Toronto ALS society.

Evaluation

As part of the ALS Dental Hygiene Outreach program evaluation, a client and family questionnaire was developed. Respondents indicated sincere gratitude for the service. We will continue to collect testimonials from family members and dental hygienists. We will hold regular meetings of the volunteers to address concerns and share information relevant to the program. An e-mail from a client demonstrates what the program means to those receiving service:

I have ALS, a rare life-threatening illness, the cause not known and no cure available. The brain is not affected. Bodily functions decline. I can't walk. I can't talk. I can't swallow well. Gradually once credibility and self-esteem is affected, being tired all the time, you tend to isolate yourself. Nobody cares anyway. One day I notice in the *ALS Journal* – free dental hygiene care for ALS patients in the home. Eventually my door opens and in come two hygienists offering to clean my teeth. Who cares about dental hygiene when you are so sick and transportation in a wheelchair is at a premium? They care. With their actions they are telling me we care. We can ease some of your discomfort. *A spark of light shines into my darkness.* Somebody cares. Thank you.

This response strengthens our commitment to this project. We are sure there are many other people with ALS and other illnesses that prevent them from accessing oral care in traditional dental settings. Dental hygienists have an important responsibility and a great opportunity to expand our services to those who need them.

An award-winning program

In September 2001, the ALS Dental Hygiene Outreach Program received the CDHA/Colgate Community Health Award. The volunteer hygienists plan to use the \$3,000 award to communicate their oral care message to the ALS

community. Since many people with ALS use computers to access information and stay connected with the outside world, we thought development of an oral care Web site would help patients, families, and caregivers. This Web site project is currently in the planning and development stage and will include oral hygiene instructions, products to make mouth care easier and more comfortable, and possibly a listing of wheelchair-accessible dental offices. The ALS Society of Canada is very excited about having the proposed new site linked to their Web site (www.als.ca).

Thinking of starting your own program?

The program is continually evolving and could be adapted to other communities and subgroups in the community. Information about the program was sent to professional associations, related agencies and individuals across Canada and the United States in the hope that this valuable project

will be expanded in their communities. Who knows how far this could go?

Jane Waites, the founder of this program, says, "This was such a little idea that just grew." Providing dental hygiene services is a health necessity and also improves self-esteem and dignity for people with ALS. If you want to provide this important service in your community, you can do it! If you require any assistance or would like a copy of *Guidelines for In-Home Dental Hygiene Care of ALS Clients*, please contact Jane Waites by e-mail at [<jane_waites_rdh@hotmail.com>](mailto:jane_waites_rdh@hotmail.com). It is committed and enthusiastic people working together that make a difference to people living with ALS. As the client stated above, "A spark of light shines into my darkness."

For more information on ALS, contact an ALS society in your area. 

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A Dental Hygienist's Experience in the ALS Dental Hygiene Outreach Program

by Cheryl Cancelli

As a volunteer in the ALS Program, providing dental hygiene in clients' homes, I found the ALS project a little frightening at first. I was concerned that I may not know the right thing to say and I did not want to show sadness in front of the clients. I have an outgoing personality and I like to be around different types of people, but could I be myself? I didn't want my nervousness to show and wanted to appear confident in what I was doing. I know that people who can't speak are often spoken to as if they are not capable. I wanted to let them know that I saw a person behind the spasms.

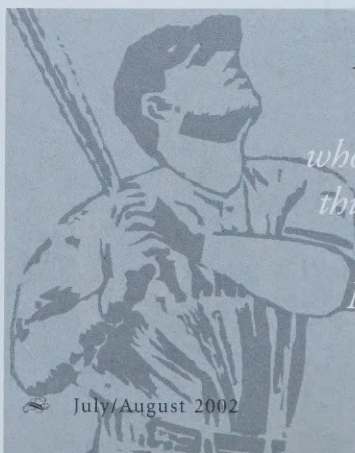
The first patient I assisted was in the early stages of ALS. However, the impact on the client, the family, and their way of life was apparent. His oral health was excellent and the family was interested in the instructions, the overall care, and having a dental hygienist return. My tasks with him were similar to my everyday work and it felt very natural to be in their home. I felt a sense of accomplishment providing my time to help this person in a small way. I learned a lot in one session about positioning the client and the adaptations needed. I realized the terrible hardship in taking this client to a dental office and I remember thinking there must be more people needing this service. Since I was not the lead hygienist on this case, I did not return, but I was kept updated on the family through their volunteer hygienist, Susan Wilson. This patient died much sooner than we expected and we felt a sense of loss and sympathy for the family who we got to know.

The next patient I saw was in very advanced stages of ALS. She spoke through a computer and it was a painfully slow

process, as she spelled out each word through a muscle connection to the computer. As long as one muscle is still working, clients can be taught to activate the computer. Her head was bent at an acute angle, which was the only way that she could breathe. It looked horribly uncomfortable. She had delightful shining eyes and could still smile. I found out later that when people use a voice-synthesized computer, it is disruptive if people try to guess their sentences ahead of time. That is exactly what I did and I feel bad about it now.

The impact on this family was striking. Although there were palliative care volunteers, the client's sister did a significant amount of personal care, while she managed to work full-time as a nurse and care for her young children. During one of the visits, we made several suggestions for dealing with a toothache. At a follow-up call a few months later, the client reported that she was not in the mood for a dental hygiene visit.

I feel that it is a gift to both the patient and the volunteer to offer dental hygiene care in clients' homes. 



LOU GEHRIG

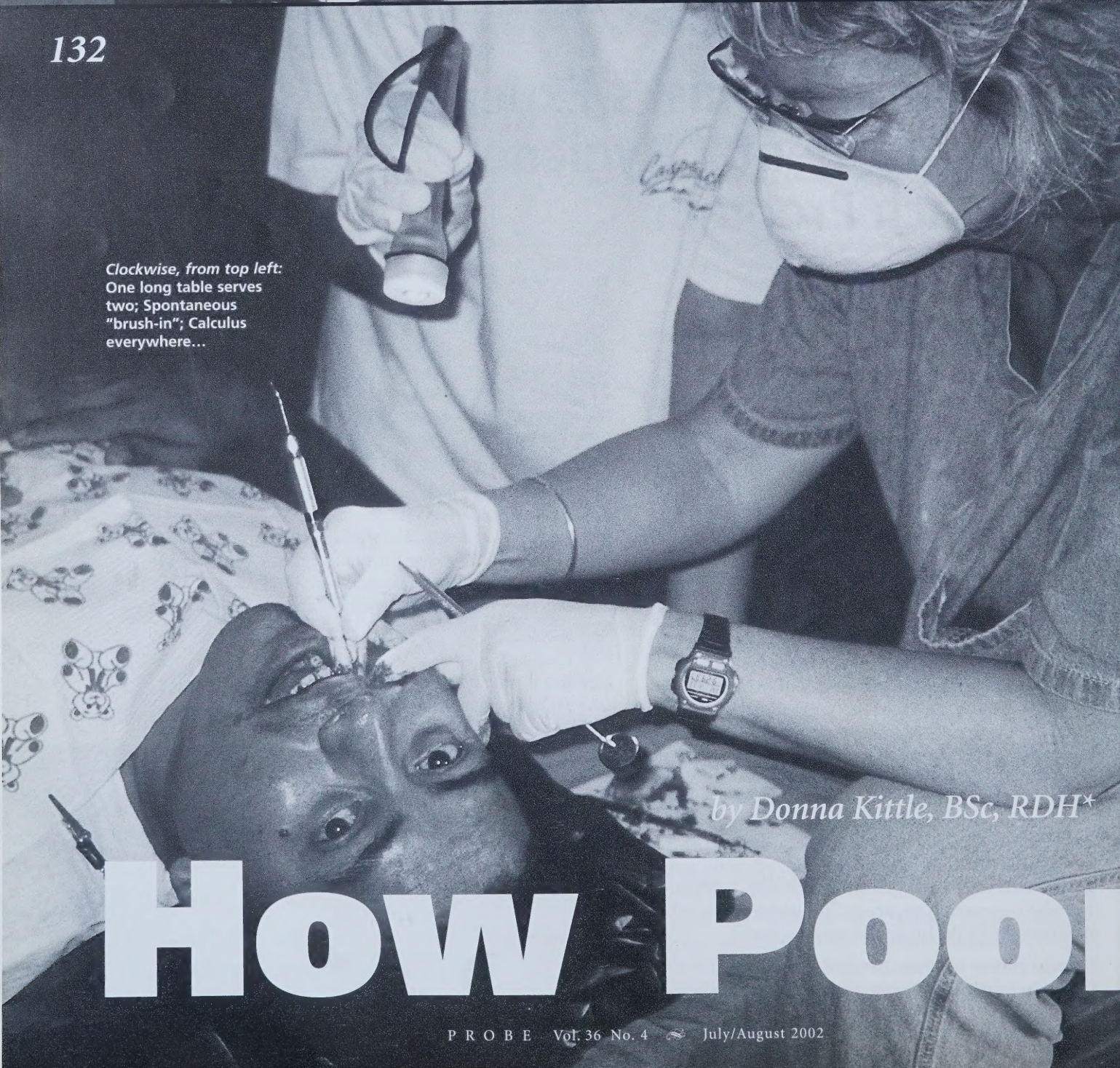
(1903-1941),

*who gave his name to
this disease, was first
baseman for the
New York Yankees,
1925-1939.*



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*Clockwise, from top left:
One long table serves two;
Spontaneous "brush-in";
Calculus everywhere...*



*by Donna Kittle, BSc, RDH**

How Pool

A swarm of buzzards slowly circled overhead as our brightly coloured "IMPRU" school bus entered the Managua compound. To the right, a group of very skinny cows chewed on whatever refuse they could find. Using hoes and rakes, five scantily clad barefoot locals scouted through the fresh refuse just dumped by the garbage truck, searching for new treasures for survival. This is my first memory of Managua, Nicaragua, as a Team I Dental Hygienist.

In January-February 2002, eight Kindness In Action dental mission groups journeyed to Central America to deliver free dental work to the very grateful underprivileged *campesinos* and indigenous people. Kindness In Action Services Society of Alberta (KIA) is a registered non-profit organization consisting of concerned dental professionals and other non-dental volunteers motivated by a belief in the dignity of all people and their right to basic human needs. Our volunteers from across Canada and the United States work without compensation and are responsible for their own airfare and accommodation.

This year, 144 volunteers participated in one-week dental missions. Working locations this year included Honduras (2), Guatemala (3), and Nicaragua (3). Over 3,000 patients were treated. Statistics include 3,200 extractions, 1,000 fillings, 500 cleanings, and 78 new dentures processed.

Bare bones dentistry, often resembling a MASH unit, is successfully completed by our creative volunteers. You work with what you have. Smiles, charades, and a holler for a Spanish translator make communication relatively simple. Duct tape is a very important product to take along. Since suction is only a North American luxury, the silver duct tape serves to hold the green garbage bag to the table so your patient can spit in the bag rather than on you. It is best to leave expectations at home and bring along a positive attitude with laughter, creativity, and a sprinkling of humour. "The Nicaraguan people touched our hearts and souls. Stinky and smelly after a full day in the humid 90 degree Fahrenheit conditions, we stayed until the last rotten tooth was pulled," said Don Danchuk, group leader Managua, Nicaragua Team I.

In Managua the poverty is gruelling. Children make up 80 per cent of the workforce; they are the breadwinners of Nicaragua. There are no social or medical programs for children. Illiteracy affects 45 per cent of the population. Revolution and the tainted tyranny of the Samosa dictatorship have ruled this country for a long time. It is sad and very humbling to experience these survivors. The *campesinos* of Nicaragua are by far the poorest I have met on any of my four dental missions. On our last day at Proyecto Mercado Huembes, we brought out the donated running shoes and ball caps we had brought with us; unfortunately, the



New toothbrushes and shoes for me and my sister

Nicaraguan children are not small like the Guatemalans but more like Canadian kids. The donated shoes went to young small children while eight-year-olds and up came in barefoot with ragged shirts but sadly we had nothing to give them.

Yet, the story always has two sides. These patients I experienced were able to smile and try something "new." I recall Marvin, a casual acquaintance of our organizers. Marvin did not speak or understand English, as far as I am aware. The first day I cleaned his teeth and he had some fillings and extractions completed. The next morning Marvin greeted our bus again at the Oriental Market, the largest market in Latin America, and helped move our equipment through the bustling shops to the library in the central core. As time went on, Marvin assisted me with medical histories while I triaged; helped me set up for cleanings; held the flashlight while I scaled, taught our patients how to brush properly by giving oral hygiene instructions; and assisted everyone else in the clinic with everything. As each day passed, Marvin's smile got bigger and bigger.

We eliminate pain by providing dental care; we touch lives and leave hope. Kindness In Action strives to plant the seeds of self-sufficiency for third-world countries of Central America. Together we do make a difference!

For more information, please contact Dr. Amil Shapka, founder and president of Kindness In Action Services Society of Alberta, Box 1334, St. Paul, Alberta, Canada TOA 3A0.

* The author has been a member of Kindness In Action for five years and has participated in four Dental Missions. She is a graduate of the University of Louisville, Kentucky (1976).

Is Poor?

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Emerging Infection Control Challenges: Science vs. Perception with Dr. John A. Molinari

Scientific and clinical information to assist dental professionals in the application of effective and practical infection control will be presented in this session. Topics include risk assessment, risk management and prevention of infection.

Medical Emergencies in the Dental Practice: Prevention and Management with Dr. Daniel Haas

Basic principles for the prevention and management of medical emergencies in the dental office will be highlighted. Discussion will include important drug interactions and the management of the medically compromised patient. A review of emergency equipment and the pharmacology of resuscitative drugs will follow. Dentists receive a basic emergency drug kit.

Orthodontics in General Practice with Dr. Timothy Foley

This session will expose participants to the numerous changes that have benefitted the discipline of orthodontics in the past few years. Some of these include the new and more reliable cementing materials, more reliable bonding materials and new and more reliable archwires. As in any dental discipline case selection and diagnostic principles are paramount for effective treatment.

Implantology A to Z: A Complete Overview with Dr. Hans-Peter Weber

A broad range of topics related to implant dentistry that interest the general practitioner will be featured. Topics include current concepts in osseointegration, treatment-planning considerations, implant placement, restorative procedure for dental implants, and implant maintenance.

For further information, please visit our Web site at www.uvcs.uvic.ca/hlthsci/dental/, or contact:

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DIVISION OF CONTINUING STUDIES
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"THE DENTAL HYGIENE COMMUNITY" (continued from page 115)

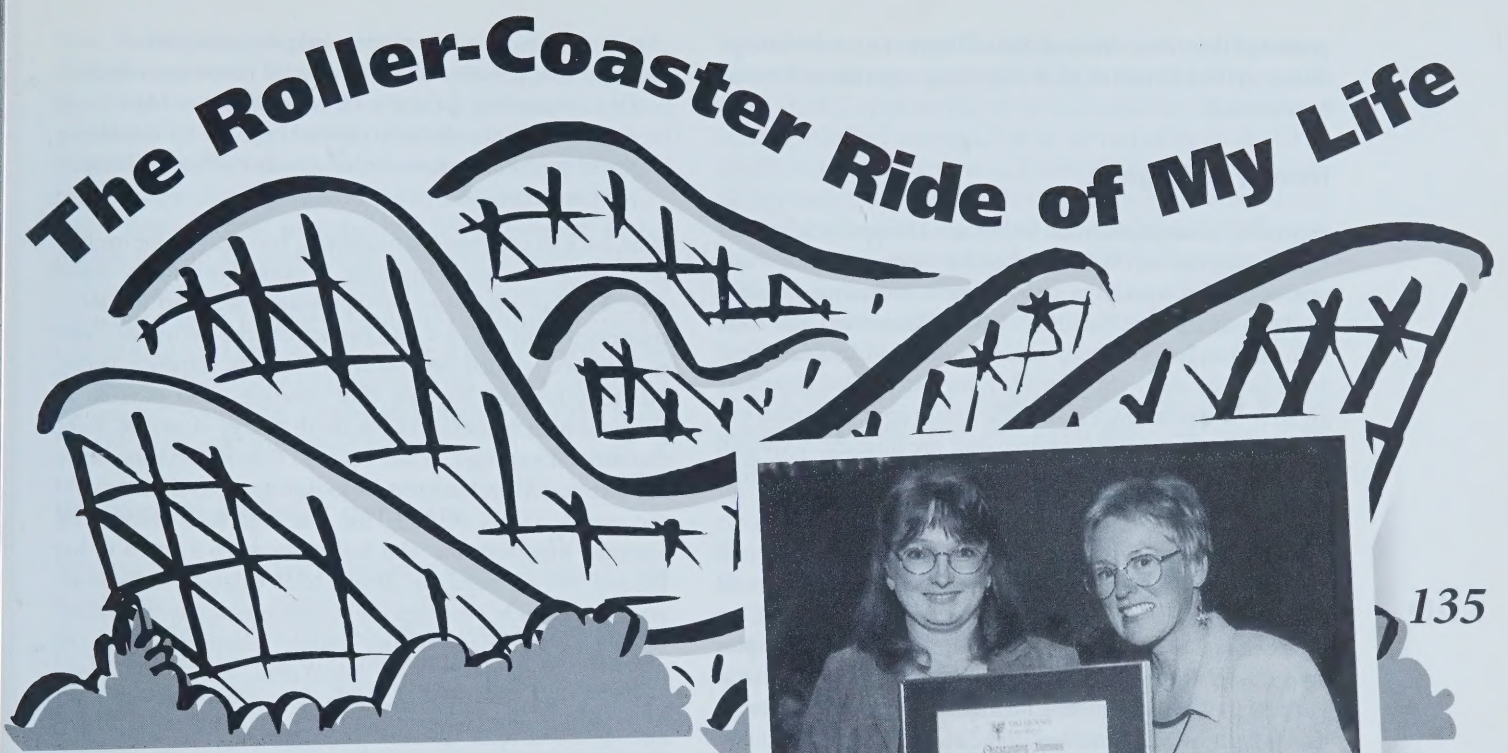
ing, finding volunteers to fill leadership roles, the ongoing quest for self-regulation, the obstacles in providing dental services directly to clients and being remunerated for such were shared concerns. Bringing these challenges to the national level (CDHA) allows us to share expertise, experience, and resources to help develop synergistic solutions that can assist dental hygienists in many provinces.

Let us champion one another. Support the brave entrepreneurs who are cracking open the doors of geriatric, long-term care, and correctional institutions and who are reaching out to the remote and the homebound. These efforts will eventually allow dental hygienists to walk right into these alternative practice settings. In the remaining non-self-regulating provinces, encourage the dental hygienists in their quest for self-regulation because that achievement will have an impact on all dental hygienists in national issues. Back the efforts of educators who are striving to make it possible for current and future practitioners to obtain a degree in dental hygiene if they want that option. Add credibility to the profession by contributing to research by and for dental hygienists. Individuals in a community should be there for one another.

A community celebrates the victories of individuals and of the community as a whole. A select few entrepreneurial dental hygienists now operate mobile and outreach dental hygiene services. In every province, dental hygienists are trying to bring about changes they see as necessary in becoming self-governing and/or in improving access to dental hygiene services for all Canadians, and progress is being made. Innovative, enhanced education with degree or degree-completion programs are being, and have been, developed. Award-winning public awareness campaigns have been produced, and the public and allied health professionals are more knowledgeable than ever about the importance of oral health and the dental hygiene profession. Anyone who has attended CDHA annual conferences will agree they are stellar affairs. These conferences are hosted by local dental hygiene communities from across this country—this year by an enthusiastic group in Moncton, New Brunswick, on September 20–22 (theme of conference: "Ride the tide to professional pride"). Every year, dental hygienists are nominated for awards for their contributions to their associations, the profession, or their communities. Let us celebrate these achievements.

Involvement in the dental hygiene community is a dynamic experience. Interacting with a variety of individuals, issues, and accomplishments keeps us excited, proud, and continually learning from one another. Involvement challenges us to participate fully and rewards us with a sense of accomplishment in being able to do something new and to make a difference. It keeps us interested and interesting. A community that can harness its most valuable resources—individual members—has tremendous potential to transform a situation. Be a proud, active, and responsible member of our dental hygiene community.

Barbara Gibb can be reached at [<president@cdha.ca>](mailto:president@cdha.ca).



or the Life of a Dental Hygienist/Dental Manager in a Pediatric Facility

by Anne Clift, RDH

I am the dental hygienist/dental manager of the Dental Department at the Janeway Children's Health and Rehabilitation Centre in St. John's, Newfoundland. The Janeway, as it is referred to, is a pediatric health care centre offering comprehensive in-patient, emergency, ambulatory, outreach, and rehabilitation programs in a family centred environment. It is located in my hometown in the Health Sciences Centre and is operated by the Health Care Corporation of St. John's (HCCSJ), which also operates a women's health centre, an adult rehabilitation centre, an adult mental health centre, and three additional adult health centres. As you can imagine, this means a lot of employees—over 6,000 in fact—and only one of them is a dental manager.

If this article seems to take many twists and turns, it's because that's the way my life is these days. For instance, this morning I planned to do the final edit on this article. However, before I could start, I had to return a call from a dentist looking for the instructions for home fluoride trays for a patient receiving radiation treatments to the head and neck; I received word the summer secretarial replacement I was expecting was seconded to another area and I had to decide when to start training a new person; and one of the physicians in the emergency department called regarding a child with a severely swollen face. I contacted our pediatric dentist, who happened to be in the operating room today, took

a panorex x-ray for him, and just sat down. I've been at work for two hours and unable to follow through on anything I started.

My "to do" list used to be a full page, but lately I just staple the pages together. This is my job and I love it! My position is funded 75 per cent by the Janeway and 25 per cent by the pediatric dentist, with whom I work part-time. Although my primary role is working with children, that doesn't begin to describe my actual day-to-day activities. Because I am the only dental hygienist and dental manager within this huge organization, I am often called upon by other areas for assistance; and for those of you who don't know me, I like to help out.

In my six years at the Janeway, I have done everything, from ordering dental equipment for the emergency rooms at the adult centres, to coordinating the HCCSJ dental emergency on-call system. I met with architects and engineers responsible for designing the new pediatric dental clinic where I currently work. I was also temporarily reassigned, along with other managers, to scrub floors and toilets at an adult hospital during a general strike by unionized workers—and I still love my job. I look back on all the times I could have



Anne Clift (left) receiving Outstanding Alumnus Award from Glenda Butt, Director of School of Dental Hygiene, Dalhousie University, May 2001

protested that these duties didn't fall within my job description, and then I think of all the amazing experiences I would have missed.

How it all began...

Following graduation from Dalhousie University School of Dental Hygiene in 1974, I worked for many years in private practice. I also worked in public health, including a stint at the Janeway from 1979 to 1982. In late December 1995, I was living in London, Ontario, with my doctoral-candidate-husband and our three children when my sister called regarding an ad for a dental hygienist in the local paper. I pointed out the obvious: two of my children and my husband were still in school, and the Janeway wanted someone to start immediately. She insisted it couldn't hurt to apply.

My telephone interview must have impressed someone, and I was hired to replace the long-time dental hygienist/dental manager at the Janeway, already part of the Health Care Corporation of St. John's (created in April 1995). They also agreed to wait until my children finished the school year in London. Luckily my husband completed his comprehensive exams early, so we all moved home at the end of June.

I started my new job the first week of July 1996 and quickly realized major changes were about to occur. These changes were completely out of my control but would have a direct impact on my department and my role in the hospital. Program management, a term with which I was to become intimately familiar, was not yet in place.

It's a good thing I'm not a worrier by nature because, although I didn't realize it yet, I had just fastened my seatbelt for the roller-coaster ride of my life. I confess to having days when I wonder if my predecessor is the luckier one, because she left before the roller coaster started to accelerate. However, most of the time, I am grateful to her for giving me the greatest opportunity of my career.

Restructuring and program management

In September 1996 (eight weeks after my start date), the Janeway and the Children's Rehabilitation Centre, which was housed in our building, became part of the Child Health Program overseeing all aspects of children's treatment. Some of the other programs created during the restructuring were Ambulatory Care, Cardiac Care, Emergency/Trauma, Medicine, Mental Health, Quality Initiatives, and Surgery. Each program has a director reporting to a vice president of the corporation. Most have clinical chiefs and division managers. Under the new system, Janeway Dentistry would be under the surgical division manager of the Child Health Program.

It's now four hours since I started this edit. I've stopped to take two panorex, one for a patient from adult hematology and another for a child oncology patient with a toothache; met a family with a newborn baby with cleft lip and palate; arranged to have a piece of equipment delivered which was needed by the pediatric dentist to fabricate a special obturator, requested by the

plastic surgeon to help shape a baby's nose for future surgery; returned a call from a dentist wondering when I'd be organizing the next CPR re-certification. On a brighter note, the dietician stopped by to see if I would prefer quiche or lasagna for lunch at our Diabetes Team Retreat next week.

Now, back to program management. Fortunately for me, the new surgical division manager, a nurse with many years' experience as a Janeway nurse manager, was also my long-time neighbour. As I got into my managerial car on the roller coaster, she guided me through budgets, expense codes, quarterly reports, my first staff meeting...and payroll. In program management, the person in charge of payroll is the department manager. When I passed this information on to my skeptical MBA husband, he looked at me as if he thought the people I was working for had lost their minds. He assumed that someone who had never worn a watch in her life and who rounded out cheque book balances to the nearest dollar wouldn't manage the computerized payroll system. But after a half-day training session, I have managed just fine. I supervise the Janeway dental clinic staff as well as the operating room dental assistant. I also interact with the emergency/trauma division managers at the adult sites because of my involvement with the Corporate Dental Emergency On Call System. It's amazing to see how this huge organization oversees health care in the St. John's area and, to some degree, the entire province; we are the provincial referral centre for medical conditions such as hemophilia and cleft lip and palate, to name just two. The pediatric dentist I work with is the only one with that specialty in Newfoundland and Labrador.

Construction and a new children's hospital

On the heels of the major restructuring to program-based management was the announcement that the Janeway and one of the adult hospitals would close and a new children's hospital would be built adjoining the main Health Sciences Centre. While it was indeed exciting to think we would be moving to the first new children's hospital to be built in Canada in a decade, there were many meetings with architects and engineers who knew a great deal about building hospitals but not so much about dentistry.

I was fortunate from the start to have wonderful support within senior management at the Janeway and from the pediatric dentist. Even with the great changes, provision of quality care to children, youth, and their families remained the first and foremost priority at the Janeway.

Oops, I was called away again, first to talk to a dentist in the community who needed some information on administration of a non-traditional local anesthetic not prepackaged for dental use. I got what he needed and called him back. He'll come by in the morning to pick everything up. I met briefly with the pediatric dentist to discuss the minutes of a recent corporate dental staff meeting. The secretary of the Child Health Program director called regarding recommendations of the Dental Accreditation Report.

Now, to continue...because of that commitment to family centred care, many aspects of the dental hygiene/manager position have not changed. As was my predecessor, I am still a member of the Hemophilia, Diabetes and Cleft Lip and Palate Teams. Both the diabetes and hemophilia teams have been recognized with "TEAM AWARDS" from the HCCSJ, and I have received an individual BRAVO Award, so my photo's been in the corporation newsletter. I also maintain a long-standing affiliation with the Newfoundland and Labrador Cancer Treatment Centre to see patients requiring radiation to the Head and Neck. The protocol developed by the oral and maxillofacial surgeon at the cancer centre calls for patient education, prophylaxis, impressions for home fluoride trays, and panoramic x-rays.

Working in pediatric dentistry

Working with the pediatric dentist in a clinical capacity was a new aspect of the position and one that I have come to enjoy very much. I had to quickly learn patient management techniques far removed from my private practice days when my biggest concern was how to convince patients they should floss every day. First to go was the facemask. Much of pediatric dentistry is based on voice modulation and facial expression, neither of which can be done well with a mask on. Plus, the children we see have probably already tried a visit with their family dentist that did not go well and are quite apprehensive when they arrive. The mask frightens them even more. Of course I don't do much deep scaling or use ultrasonics on children so my risk from an infection-control perspective is considerably less than in private practice.

Another interesting aspect of pediatric dentistry is interpreting behaviour. For example, I can now tell from a child's cry (and yes, most of the preschoolers do cry) if they are truly phobic or would just prefer to be somewhere else other than in my chair. You can usually talk and reason with the latter group and have a good appointment, whereas the former are so terrified they do not hear anything you say. Treatment must be as gentle and quick as possible for these children because it is only through many encounters—sometimes over a period of years—that you will gain their trust.

In addition to the fearful child, I also see medically compromised children and those with special needs (both children and adults). Again, treatment is very different from that I had provided to my patients in private practice. "Best treatment" takes on a different meaning. Sometimes just accessing the mouth is so difficult that I am exhausted when the appointment is finished and I know I have not done a thorough job. But the patient and I have done the best we can on that day and with that I have to be satisfied.

Accreditation surveys

The biggest changes have come with construction of the new children's hospital. First, the building was barely started when the Health Care Corporation of St. John's underwent its first Canadian Council of Health Services Accreditation (CCHSA) survey. For those of you unfamiliar with the accreditation process, all policies, processes, outcomes, and

leadership of the organization are reviewed by independent surveyors and compared with national standards for health care. The CCHSA certificate of accreditation is recognized internationally. I was proud to be invited to sit on the Child Health Surgical Care team and worked hard to develop dental appendices to policies relating to infection control and latex precautions. At the end of the visit by the CCHSA survey team, the spokesperson for that group noted that, "despite the tremendous changes that have occurred, we still have our core services intact and we are seen as a caring organization." She told us, "You all need to feel proud."

It was an incredible learning experience that proved extremely valuable when, only a year later, I was asked along with two quality facilitators to help organize the initial survey of the organization by the Commission on Dental Accreditation of Canada (CDAC). The Janeway had been successfully accredited for many years, but this would be the first time the Health Care Corporation of St. John's would undergo a Dental Accreditation. In evaluating ourselves and preparing documents prior to the accreditation site visit, it was evident the Child Health and the Mental Health programs had comprehensive dental facilities, and certain other adult groups such as head and neck cancer patients were well cared for. There was, however, a lack of dental equipment and supplies in the adult centres. Again, senior management recognized the importance of having adequate dental equipment to treat emergencies and I worked with them to identify what was needed. I was then given a budget to order the equipment and have it installed. I then oriented our dental staff to the new areas, located in the emergency rooms at the two adult sites.

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Theresa Morris (left), Surgical Division Manager, and Anne Clift: Choosing a winner of Janeway NDHW Coloring Contest

The snow, the strike, and the move

We had hoped to be in the new building prior to the accreditation site visit, but it was not to be. The survey team arrived in January 2001. We were already into the third month of the snowiest winter on record for St John's. (The total snowfall recorded for the winter of 2000–2001 was 644.6 cm or 21 feet, 1.8 inches.) We were able to show the team the unfinished dental clinic and they were most impressed. Our space in the old building was unsuitably located on an inpatient ward and was very cramped. Since accreditation, the two quality facilitators and I have continued to meet to address the recommendations and suggestions given by CDAC in their report.

We actually moved in May 2001, but before that big event, we survived a five-day strike by support staff in all the hospitals. This resulted in managers, like me, being reassigned to cover duties normally carried out by those workers. I was assigned to a large adult facility to work 12-hour shifts on housekeeping duty. And yes, that meant emptying garbage, mopping floors, and scrubbing toilets. I think I survived only because I ended up with a wonderful bunch of managers who found humour in our blisters and sore backs. Fortunately the strike did not last long and when it was over, the Housekeeping Manager presented us with "Awards." My award was a certificate for "MOST MILES TRAVELLED," complete with a pair of pink plastic high-heeled shoes. My duties during the strike included cleaning a clinic in a separate building up the street from the main hospital. I would have to get dressed for the snow, cross the picket line, trudge up the road to the other facility, clean it up, then dress and go back again, sometimes twice a day. So that is where the "MOST MILES TRAVELLED" came from. At least I didn't get the "MOST BLISTERS AWARD"! On the bright side, I did get some fresh air on my shift. After the strike, it took a few days to readjust to the routine. Then it was back to the regular roller coaster and THE MOVE.

The move to the new building was accomplished with surprising ease. I guess all that advance planning paid off. Dentistry shut down on a Wednesday afternoon and started up again the following Monday. I still smile every morning when I enter the beautiful new clinic. Our corridors are wide and treatment rooms large enough to accommodate patients on stretchers and others with special needs with the same dignity afforded you or me as we visit a dental office.

It's now three o'clock in the afternoon and I have not looked at this article at all today. I did, however, help the dentist on call find OR time to treat an adult patient and aided another dentist with materials needed to treat a patient with an amide allergy; contacted a dental researcher at the University of Toronto for permission to use his subjective oral health indicators (he said yes); spoke to one of our active staff dentists regarding new dental surgical instruments for the operating room; and met with my division manager to discuss the 2002/2003 budget for dentistry.

Will this ride ever end...?

The Teddy Bear B.A.S.H.

Once the move was accomplished, things didn't settle down as much as I had anticipated. In fact, the roller coaster had only momentarily dipped before picking up great speed. Our first Teddy Bear B.A.S.H., a special day developed by the Children's Miracle Network to introduce children to hospital procedures through their teddy bears, was a huge success. Thanks to our local dental supplier, I had an actual working dental operatory, complete with chair, lights, and tools set up in a tent in a park. The day was such a success in fact that staff were relieved when the rain started to pour down mid-afternoon. As it was our first B.A.S.H., we had no idea if 10 or 100 children would show up. In fact, there were 1,500 children and their stuffed toys through the big B.A.S.H. tent, while more than 500 people passed through the Tooth Booth.

September 11, 2001

Then came September 11, a terrible day but one that you wouldn't think would affect local dental personnel. But when more than 25,000 diverted passengers landed in Newfoundland and Labrador and were directed off their planes without any personal belongings, including toothbrushes, I sprang into action. With the help of the dental community, we supplied thousands of toothbrushes to stranded passengers in St. John's and Gander. (Note: Oral-B replaced all donated toothbrushes once they heard what had happened.)

More restructuring

Just a few weeks ago, the roller coaster plummeted again, taking my stomach with it, when in yet another round of restructuring, my long-time surgical division manager retired, leaving me not knowing my future. Luckily my new boss, the perioperative (operating room/recovery room) division manager, is a person I already know well and with



At the Teddy Bear B.A.S.H.

whom I have had many day-to-day interactions ever since I started working at the Janeway.

Since the move, the new children's hospital is physically connected to the largest adult acute care facility in the province. Because of that, I receive more calls involving patients requiring dental assessment prior to cardiac surgery. Treatment can range from thorough cleaning of teeth, patient education, and x-rays to full mouth clearance. Patients wishing to go on a transplant list must also have a dental assessment. In view of the ever-growing body of evidence linking oral health and general health, it's exciting to see hospital policy recognizing that trend. When one of the adult facilities began doing stem cell transplants last year, the oral and maxillofacial surgeon asked me to get involved with those patients; I quickly agreed.

Telemedicine

The HCCSJ is affiliated with Memorial University's Faculty of Medicine, and through that affiliation, I can take advantage of their facilities in the Telemedicine Department to organize teleconferences and videoconferences with dental personnel all over the province. Marilyn Gouling (scientific editor of *Probe*) and Salme Lavigne (immediate past president of CDHA and director of the School of Dental Hygiene at the University of Manitoba) are just two of the people who have presented via live, interactive videoconference from the medical school to remote areas of Newfoundland and

Labrador. Recently our hemophilia team at the Janeway presented via videoconference to the medical staff at a hospital more than 200 miles away. Being able to see and speak to each other was almost as good as being there. The policies I helped develop for the corporation on infection control for dentistry and latex precautions have been circulated to all dental offices in the province. The quality initiatives program is very supportive of such activities.

Community work

There is no community health dental hygienist so I am often called upon to do school and community visits. Nursing students use my resources as well to complete their assignments on oral health. I am currently working on revising the dental portion of the Early Childhood Education Manual for the province and recently gave a presentation to a Pediatric Diabetes Symposium.

One evening last week I volunteered to give a presentation, at a meeting of immigrants' families, on oral health care for their children. The families were from as far afield as Colombia, Sierra Leone, and Kazakhstan...and had quite a range of understanding of English. I have also spent days with seniors at the Seniors Health Fair organized by the Victorian Order of Nurses (VON).

These are but some of the things my weekly schedule entails. I never know what each week will bring but certainly realize by now that it definitely will be a learning experience! 🍵

"WHAT IS A COMMUNITY?" (continued from page 121)

ists are qualified, safe professionals who should be directly answerable to the public. These volunteers, working together toward a common goal, are also exhibiting another characteristic of community: mutual support.

Learning from one another is something else that benefits us as members of a community. Sometimes it is difficult to know where to start when looking for an expert to assist you. CDHA would like to facilitate your ability to learn from your peers. Forget the physical boundaries of a geographical community. Log onto the *Members Only* portion of our web site and locate colleagues who have identified their areas of expertise. Share in one another's successes and discover previously untapped resources.

You can also share an event with your colleagues. If you are organizing an event, or know of one coming up that fellow dental hygiene community members would find informative, share the details using the convenient on-line form in the *Calendar of Events* section of the *Members Only* area of our web site. If you are looking for an event, search by province, city, or other search categories to find what you are looking for.

Communities celebrate their successes. CDHA and many provincial associations do this in the form of Life Memberships, Distinguished Service Awards, Student Scholarships, and Dental Hygiene Awareness Awards. Are there leaders you would like to recognize? Please contact us, note the announcements in *Probe*, or check out the web site for nomination and award guidelines.

A community needs a voice: CDHA serves its community members as the collective voice of dental hygiene in Canada. We support each other in developing national position statements and policy positions to assist dental hygienists serve the Canadian public. This year we have spoken to the Finance Committee of the federal government and made submissions to the Romanow and Kirby commissions. For full reports of these submissions, please check out the web site. You can also refer clients and other interested people to the public portion of the web site where these reports are posted. We produced a national television advertisement on the dental hygiene profession to raise public awareness about the important role you play in their health care. We are also helping you inform your clients of their rights to a qualified professional through the *Dental Hygiene Client's Bill of Rights*, published in the January/February 2002 issue of *Probe*, and also available in a printable format on the web site.

A community attempts to bring benefits to all its members. CDHA does this through providing professional liability programs and offering affinity programs such as our disability insurance, home and auto insurance programs, and investment programs. We have been reviewing all of our programs and will have some announcements of new offerings in the coming months.

We are all members of a number of communities. Become an active participant in your dental hygiene community and help us all learn from and share with one another. Let's not be content to simply have dental hygiene in common. Be a part of the community. Add to the dental hygiene voice. 🍵

des défis de plus en plus considérables, de sorte qu'il se trouvera des individus prêts à passer à des postes de leadership. Je crois que la force motrice dans une collectivité est constituée des efforts combinés des personnes qui s'impliquent dans quelque capacité que leur permettent le temps dont elles disposent ou les talents qui leur ont été impartis.

Le sentiment d'être isolées dans nos problèmes peut être frustrant, décourageant et difficile. Partager le défi allège le fardeau et aide souvent à résoudre le problème. En tant que collectivité de professionnelles, je crois que nous devons nous rallier autour de nos collègues dans leurs défis parce que la plupart des problèmes nous affecteront à un certain point, directement ou indirectement. À la réunion des présidentes provinciales, on a pu partager des préoccupations communes sur des questions comme celles de trouver des bénévoles pour jouer des rôles de leadership, de poursuivre la quête de l'auto-réglementation, de lutter contre les obstacles qui s'opposent à la prestation de services dentaires directs aux clients contre rémunération. La capacité d'amener ces défis au niveau national (ACHD) nous permet de partager l'expertise, l'expérience et les ressources pour aider à élaborer des solutions synergétiques qui peuvent venir en aide aux hygiénistes dentaires dans plusieurs provinces.

Soyons les championnes les unes des autres. Soutenons les braves entrepreneurs qui entrouvrent les portes des soins

**Vous pouvez trouver que les
récompenses de la camaraderie
et le sens de l'accomplissement
vous conduiront à accepter des
défis de plus en plus
considérables, de sorte qu'il se
trouvera des individus prêts à
passer à des postes de
leadership.**

gériatriques de longue durée et les institutions correctionnelles, et qui rejoignent les personnes éloignées et retenues chez elles. Ces efforts permettront éventuellement aux hygiénistes dentaires de pénétrer directement dans ces milieux de pratique alternatifs. Dans les provinces où l'auto-réglementation reste encore à faire, encourageons les hygiénistes dentaires à continuer la poursuite de l'auto-réglementation parce que le fait d'y parvenir aura un impact sur toutes les hygiénistes dentaires dans les enjeux nationaux. Soutenons les efforts des éducateurs qui s'efforcent de rendre possible, pour les praticiennes actuelles et futures, l'obtention d'un diplôme en hygiène dentaire si elles désirent cette option. Ajoutons de la crédibilité à la profession en contribuant à la recherche effectuée par et pour les hygiénistes dentaires. Les individus faisant partie d'une collectivité devraient être là les uns pour les autres.

Une collectivité célèbre les victoires des individus et de la collectivité dans son ensemble. Un petit nombre sélect d'hygiénistes dentaires ayant un esprit d'entrepreneur exploitent maintenant des services mobiles et des services d'extension en hygiène dentaire. Dans toutes les provinces, les hygiénistes dentaires s'efforcent d'apporter les changements qu'elles perçoivent comme nécessaires pour atteindre à l'auto-réglementation et/ou pour améliorer l'accès de tous les Canadiens aux services d'hygiène dentaire, et elles font des progrès. Une éducation innovatrice, améliorée avec un diplôme ou des programmes de fin d'études menant au diplôme sont en voie de développement ou l'ont été. Des campagnes de sensibilisation du public primées ont été produites, et le public et les professionnels de la santé de disciplines connexes connaissent plus que jamais l'importance de la santé buccale et de la profession de l'hygiène dentaire. Quiconque a assisté aux conférences annuelles de l'ACHD conviendra que ce sont des affaires "stellaires". Ces conférences sont tenues sous les auspices des collectivités locales d'hygiène dentaire de tous les coins du pays, cette année par un groupe enthousiaste de Moncton (Nouveau-Brunswick), du 20 au 22 septembre (le thème de la conférence sera "Ensemble, soyons fier(e)s de notre profession"). Chaque année, les hygiénistes dentaires sont mises en candidature pour des prix reconnaissant leurs contributions à leurs associations, à la profession ou à leurs collectivités. Célébrons ces réalisations.

L'implication dans la collectivité de l'hygiène dentaire est une expérience dynamique. Interagir avec une variété d'individus, d'enjeux et de réalisations font que nous sommes continuellement sur le qui-vive, fières et en état d'apprentissage les unes des autres. L'implication nous propose le défi de participer pleinement et nous récompense en nous donnant un sens de réussite parce que nous nous révélons capables d'innover et de faire une différence. Cette activité nous garde intéressées et intéressantes. Une collectivité qui peut harnacher ses ressources les plus précieuses, c'est-à-dire ses membres individuels, possède un potentiel extraordinaire de transformer une situation. Soyons des membres fières, actives et responsables de notre collectivité des hygiénistes dentaires.

On peut communiquer avec Barbara Gibb à l'adresse
<president@cdha.ca>. 

Diabetes is an immune deficiency disease associated with six health complications, including periodontal disease, retinopathy, nephropathy, cardiovascular disease, impaired wound healing, and neuropathy. The connection between uncontrolled diabetes and oral health and the whole body is becoming well known. To date, approximately 2.25 million cases of diabetes have been diagnosed in Canada.¹ The majority of the diabetic population, approximately 85–90 per cent, has type 2 or non-insulin dependent diabetes mellitus. However, there is also a large group of individuals who are undiagnosed.

Type 2 diabetes was once considered a disease of middle age, but now it is diagnosed in children and in people who are 20 to 30 years old. It is most common in Canadian Aboriginals, individuals of African and Asian descent, and individuals with a previous family history of the disease. Some contributing factors are poor diet and a lack of physical activity leading to obesity. Factors such as stress, smoking, hormones, medication, poor diet, and poor oral self-care contribute further to the problem of both diabetes and periodontal disease. As dental health care professionals, it is our responsibility to educate our clients on the prevention and treatment of this debilitating disease.

1. In slowed or impaired wound healing and other diabetic complications, cells need glucose for energy but insulin production/sensitivity is defective, not allowing glucose to enter the cells efficiently.

The key mechanisms involved in diabetic complications are as follows:

- Hyperglycemia (too much glucose and not enough insulin) causes cell death.
- Advanced glycation end products (glucose binding with proteins and fats) form on collagen, altering the blood circulation by thickening the blood vessel wall, thus decreasing the size of the lumen of the blood vessel. Platelet aggregates now adhere to the roughened blood vessel wall, further decreasing the diameter. This causes a decrease in circulating red blood cells, and a decrease in the ability of the hemoglobin to carry oxygen. A lack of circulating oxygen and an underutilization of glucose may result in fatigue. At the wound site, the blood vessels and basement membrane in the capillaries thicken, stopping the diffusion of nutrients and oxygen, and the removal of waste products. Increased fibronectin receptor protein response to high glucose levels increases basement membrane thickness, affecting wound healing, cell adhesion, and cell migration.

Oral Health and Diabetes: Key Points to Educate the Client

by Katharine Cashman, BSc, RDH



- The key protective white blood cell (polymorphonuclear leukocytes) response is depressed.
- Wound collagen is decreased and collagenase is increased. Wound collagen is needed for healing, as well as for platelets adhering to the wound site. The enzyme collagenase destroys newly formed collagen.
- The mechanism in diabetic complications and periodontal disease is similar. In periodontal disease, increased crevicular glucose increases gram-negative bacteria, which causes disease by attacking the periodontal ligament. Similarly, there is cell death in diabetes when there is no insulin.

• In a diabetic individual with uncontrolled diabetes, who has

moderate to severe chronic generalized periodontal disease, the total surface area affected would be a wound the size of the palm of your hand, constantly being attacked by bacteria.

- Heart and circulation diseases, which are accumulative and non-reversible, are three times greater in uncontrolled diabetics. Periodontitis is a risk indicator for heart disease, meaning that if you have heart disease, you may have periodontal disease.

2. The relationship between gum disease and diabetic complications is as follows:

- Both diseases are controlled, not cured.
- Uncontrolled diabetes is a major risk factor for bone loss, tissue breakdown, and tooth loss, even when there is little plaque and calculus.
- There is a shift to more aggressive bacteria, such as *Porphyromonas gingivalis*, *Bacteroides forsythus*, as well as *Actinobacillus actinomycetemcomitans* (or A.a.), in younger diabetic clients. When clients with similar bacteria are compared, those with uncontrolled diabetes have more abscesses, granulation tissue, and more extensive periodontitis.
- Uncontrolled diabetes and periodontitis are correlated with an increase in glucose in the saliva. Uncontrolled diabetes and onset of diabetes influence the severity of periodontal disease and susceptibility to oral infections.
- Controlled diabetes results in decreased oral inflammation. Following periodontal treatment, consisting of mechanical debridement and antibiotics, insulin requirements decrease, due to a decrease in inflammation. Chronic infections have a negative affect on diabetes.
- Severe chronic periodontitis results in a greater insulin resistance (<periodontitis=<insulin resistance). There is a 2.8 to 3.4 times greater risk of developing periodontitis in uncontrolled long-term diabetics.²

- Advanced diabetic complications, such as retinopathy, kidney dysfunction, and cardiovascular disease, are correlated with severe chronic periodontitis, possibly due to the fact that all of these conditions are linked with glucose/cell permeability dysfunction.
 - Well-controlled diabetics without local factors (such as plaque and smoking) who follow a good diet have healthy periodontal tissue, which may be healthier than non-diabetics since the diabetics' sugar intake is low.
 - Periodontal disease is a progressive chronic inflammatory disease where the periodontal tissue is in a constant state of wounding and repair. Diabetes impairs wound healing. Therefore client compliance and diabetes management are important for success. This includes early diagnosis, strict plaque control, and strict glucose/insulin control.
3. Other oral complications that result from poor glucose control:
- Dry mouth, burning mouth or tongue, candidiasis, oral ulcers, altered taste/smell, oral/facial pain, lichen planus (a possible link to immune deficiencies), and an increase in caries—all due to an increase in glucose in the saliva. These side effects may also be the result of hypertensive medications that produce dry mouth. Dry mouth is also associated with kidney dysfunction.
4. Diabetes and smoking:
- Smoking affects the immune response.
 - Smoking and uncontrolled diabetes are also correlated. Smokers also have impaired wound healing. Nicotine and toxic additives, such as cyanide, carbon monoxide, and aryl hydrocarbons, break down collagen and

inhibit gingival fibroblasts. Collagen synthesis is needed for healing.

- Circulation and blood flow are affected by the vasoconstrictive properties of tobacco.
- Both uncontrolled diabetes and smoking increase the level of aggressive bacteria (*P. gingivalis* and *B. forsythus*).

5. Oral self-care:

- Brushing, flossing, using a sulca brush, interproximal aids, tongue debridement, and fluoride for exposed roots can be used for uncontrolled diabetics.
- It is important to increase the frequency of professional maintenance appointments to every three to six months, depending on the client's needs. Controlled diabetics responds well to periodontal treatments.
- There is a correlation between oral health behaviour and diabetes self-care. Poor oral self-care can lead to periodontitis and poor glucose control leads to diabetic complications. Success is attributed to effort, ability, and insight into health problems.
- Dry mouth can be relieved by chewing gum, sucking on sugarless candies, water, humidifiers (not with asthma), sucking on ice chips, pilocarpine medication, and avoiding alcohol mouthwash. Fluoride treatments and chlorhexidine rinses can prevent increased decay associated with dry mouth.
- Ill-fitting dentures and/or partial dentures can lead to inflamed tissue, complicating the diabetic condition. In candidiasis, soak the denture (not a partial denture) in 10 parts water to 1 part sodium hypochlorite for five minutes for four to seven days, and rinse well. A regimen of nystatin is recommended for candidiasis.

Dental Appointment Checklist

Pre-appointment

- ☐ make appointment in morning if possible
- ☐ check medication and insulin peak times for client
- ☐ check with client's physician whether antibiotic required
- ☐ request client to observe regular mealtimes
- ☐ request client to limit physical activity
- ☐ exercise caution with use of ASA, unless OK'd by physician
- ☐ request client to self-monitor glucose levels

During the appointment

- ☐ request client to self-monitor glucose levels
- ☐ watch for symptoms of hypoglycemia
- ☐ have sugar and glucose tablets for emergencies

Post-appointment

- ☐ make diet recommendations, if necessary

Medications and Dosages	Peak Times	Possible side effects
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

6. Dental appointment times should be made, keeping in mind the following points:

- Regular meals should be eaten prior to the appointment to maintain the correct insulin regimen. Missed or delayed meals can increase the risk for hypoglycemia. Fasting or disrupted meal times should be avoided.
- Morning appointments are preferred since glucose levels are stable at this time and stress, which affects insulin levels, is generally lower in the morning.
- For insulin-dependent clients, appointments should be made after insulin dosage and breakfast, not around meals when glucose is low. Insulin peak times can vary from 1.5 to 3 hours, depending on the type of medication. In type 1 diabetes, lispro, a rapid-acting insulin, is taken prior to a meal. It acts in 15 minutes, peaks in 30 to 90 minutes, and lasts for 5 to 6 hours. It could therefore peak mid-morning. Discuss the medication and insulin peak times with the clients or their doctor.
- Exercise and physical activity should be kept to a minimum prior to the appointment.
- Acetylsalicylic acid (ASA) can increase insulin secretion and sensitivity.
- If solid foods cannot be eaten following the appointment, then recommend soft foods or fluids.

- Glucose levels should be self-monitored prior to and during long appointments. Serum glucose levels should be between 5 per cent and 8 per cent (80–180mg/dl). Levels above 8 per cent (>180mg/dl) result in decreased healing and risk of infection. Consult with the client's physician to determine if pre-medication such as an antibiotic is needed. Reschedule if the level is above 12 per cent (>300mg/dl) or less than 4 per cent (<70mg/dl).
- Ask the client if they have hypoglycemic problems.
- Clients may become desensitized over time to early hypoglycemic symptoms such as sweating, tremors, shaking, confusion, increased heart rate, cold clammy skin, and nausea. The symptoms can also be masked by alcohol and beta blockers.
- Keep sugar on hand for emergencies. Also, for those on a glyburide/acarbose combination, use glucose tablets because this combination reacts in the gut and the body is able to use the glucose readily.

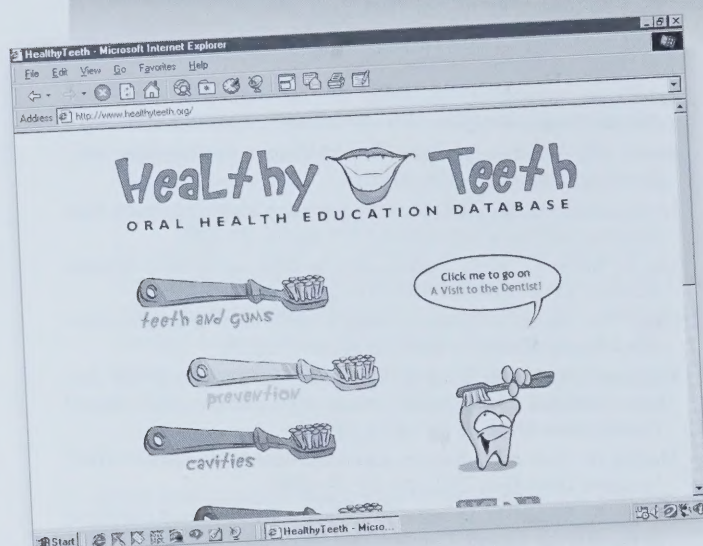
Findings support the need for assessment, diagnosis, treatment planning, implementation, and reassessment in the dental office to monitor the client's needs. Controlled diabetics who maintain good oral self-care have minimal problems and better oral health than non-diabetics because of a good diet and a lack of sugars.

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by Karen Wolf, DipDH

WELCOME SUMMER! WELCOME WARMTH! I'm dedicating this column to web sites that can assist you with your projects for the next year. The sites below are devoted to providing you with a variety of oral health resources—from waiting room books to tools for classroom lesson plans. Check out these sites, bookmark them for future reference, and then enjoy your summer.

Lätsä (www.latsa.com)

"Dental health and health educational products for early childhood education, preschools, childcare, & Head Start and excellent for occupying your young patients in the reception area of dental and medical offices."

This site has sections such as *Ask Latsa Questions*, *Our Products* (books, manuals for teachers and parents, puzzles, posters, educational play, and more), *Order Online*, and more.

HealthLinks (www.healthlinks.net)

This is a "portal" or gateway site—a database of over 33,000 links to health care sites, arranged by topic. The database is growing at the rate of up to 1 per cent per day with a focus on "making the Internet a practical tool for research and collaboration within the healthcare community."

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"The HealthLinks website is a free World-Wide Directory - Portal Service for healthcare professionals and consumers. Our main focus is to assist in the task of locating medical and healthcare information, products, resources, services and practitioners on the World-Wide-Web. We also provide a series of forums for healthcare discussions, a free classifieds ads area, a monthly newsletter containing articles about healthcare, computer and Internet subjects and the largest listing of Hospitals on the Internet."

On this site, I typed "oral health" in the search box and came up with 12,339 sites! One of the sites listed was Healthy Teeth, a site sponsored by the Canadian, Nova Scotia, and Halifax County dental associations.

Healthy Teeth: Oral Health Education Database (www.healthyteeth.org)

This site is based on the belief that it is "important that students have access to quality, innovative information on oral health. By understanding the how and why of healthy tooth growth and development, the science of cavities and methods of prevention, it is hoped that students will learn to take better care of their teeth and gums."

"Healthy Teeth is an oral education database built upon the science of oral health and designed for elementary grades 3 – 6. It features animated graphics, easy-to-understand text, simple classroom experiments and much more." It is available to anyone and can be either a "stand alone lesson on oral health" or incorporated into the health or science curriculum. Toothbrush icons launch different sections of the site, *Teeth & gums*, *Prevention*, *Cavities*, *Braces*, *Experiments & activities*, and *Teacher's guide*.

Have a pleasant, safe, and relaxing summer.

Until next time. 

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"Reaching Families with Young Children":

A Community Dental Health Project for Preventing Early Childhood Caries

by Maureen O'Neil,¹ RDH, and
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Abstract

This paper reports on a community dental health initiative focused on the prevention of early childhood caries (ECC) in the South Fraser Area of the Fraser Health Authority, British Columbia, Canada. The goal of the promotion was to "reach families with young children" and provide them with important key messages about preventing ECC. Family physicians were involved in planning, delivery, and evaluation of the project. Low literacy, culturally specific educational materials were developed for use in various ECC prevention activities. Educational materials were sent to physicians with the request that they make the materials available to families in their practice and pass on preventive messages during child immunization appointments and well-baby visits. The results of initial evaluations indicate that the project succeeded in involving physicians in passing on key preventive information to families in their practice.

Background

The South Fraser Area (SF) of the Fraser Health Authority is a large health area with a population of approximately 600,000 people. There are many young families in the region with 29 per cent of the population being children 0–19 years of age. SF is culturally and socio-economically diverse with

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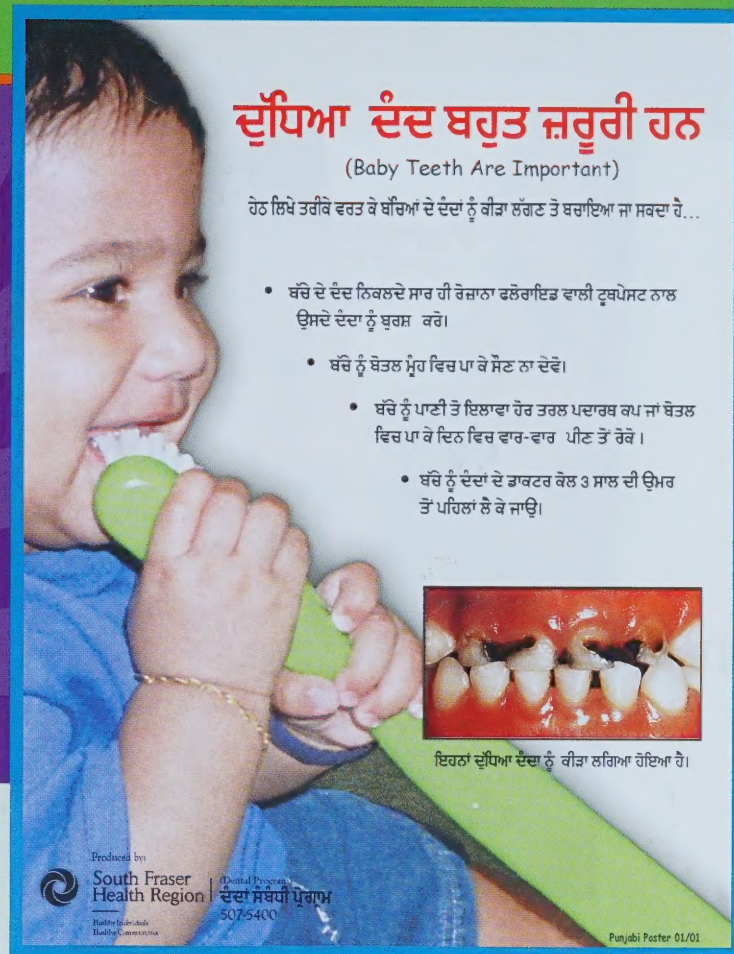


Figure 1. Posters in Punjabi and English

approximately 19 per cent of the population having English as a second language. Two communities in SF have a large percentage of people (27 per cent and 16 per cent) whose first language is Punjabi.¹

School dental screening statistics for 2000/01 revealed that 40 per cent (2,750) of children in SF had experienced dental caries by the time they reached kindergarten and that 3 per cent (183) were experiencing pain and/or infection at the time of screening.² In the SF during 1998/99, one-quarter of all children's daycare surgery was for dental procedures.³ In 1997, the Provincial Health Officer reported that dental treatments were the most common hospital-based surgical procedures for children less than 14 years of age in British Columbia.⁴

In a recent report to the Association of Dental Surgeons of British Columbia (ADSBC), the Children's Dentistry Task Force estimated that the annual cost to the private and public sector of treating ECC is well over \$10 million. Furthermore, more than 5,000 children are treated in British Columbia hospitals under general anesthetic each year.⁵

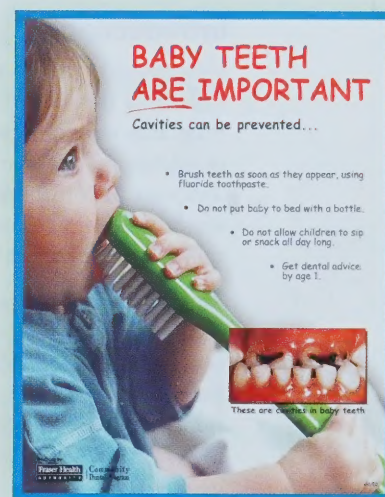




Figure 2. Front covers of English and Punjabi pamphlets

Introduction

Community dental programs in all regions of British Columbia initiated efforts to reduce the incidence of ECC. Programs were developed that focused on the identification of infants and toddlers at risk for ECC. Once identified, families were provided preventive information and support. The majority of families were accessed through child immunization appointments at the local health unit.

This particular approach, however, proved to be less effective in the SF. Two pilot projects revealed that only a small percentage (under 30 per cent) of babies born in SF received their immunizations at the health unit. It was also determined that babies at greatest risk for ECC were more likely to visit their family physician for immunizations and well-baby visits.

In an attempt to access a greater percentage of the target group (families with children ages 0–5), Community Dental Staff from SF initiated an educational program in partnership with local physicians. Family physicians see children earlier than dentists and can play a critical role in the development and delivery of perinatal preventive and educational programs.⁶ This strategy is in keeping with recent recommendations made to British Columbia's Ministry of Health in the May 2001 report, *Strategies to Enhance the Oral Health of British Columbians*.⁷ It was suggested that efforts be made to "enhance the awareness and availability of resources about oral health promotion to all health-care workers, social workers and teachers."⁷

Project description

For the purposes of this report, ECC is defined as any sign of tooth decay in the primary dentition during the first five years of life. This definition extends to age five, because the caries experience of SF children is measured by data obtained through a kindergarten-screening program in elementary schools. The goal of the project was to access families with young children through their family physicians and to provide these families with preventive dental information before detrimental habits were formed. Ultimately, the goal was to reduce the incidence of ECC and the number of children needing dental treatment in hospitals in SF.

Immunizing family physicians were consulted; those wishing to participate were then sent specifically designed educational materials. They were asked to make the materials available to young families in their practice.

Community Dental Staff felt it was important that young families have multiple exposures to the health messages, to reinforce the information they were obtaining from their physician. The educational materials were distributed throughout the region, to places such as dental offices, health units, community pharmacies, hospital waiting areas, community centers, schools and daycares—virtually anywhere young families might be. The intent was to make the preventive information available for all families.

Educational materials

Educational materials were developed that suited a wide range of audiences and reflected the needs of the high immigrant, low socio-economic nature of some of the communities in SF. The materials, in the form of posters, pamphlets, and stickers, were developed based on current scientific information about the etiology and prevention of ECC (Figures 1 to 3).

The materials focus on the most common factors associated with the development of ECC—lack of mouth cleaning with fluoride toothpaste and inappropriate feeding and comforting habits. Lack of mouth cleaning with fluoride toothpaste is considered a high-risk factor, as there is no water fluoridation in SF.

The poster and pamphlet encourage families to seek dental advice by the time the child reaches age one. This follows the current Canadian Dental Association (CDA) recommendations for the first dental visit.

The poster is small, 8½" x 11" and was designed to be displayed in prominent locations in physicians' offices and to accommodate those with limited wall space (Figure 1).

The pamphlet consists of a self-test designed to help families determine if their children are at risk for decay and offers strategies for reducing the risks (Figure 2). The intent was that the pamphlet could be made available in waiting rooms or handed out as an adjunct to preventive teaching. The stickers are used to deliver one key message: "Baby Teeth are Important!" (Figure 3).

Methods

Two pilot projects were conducted to assess children at risk for ECC. Families of 12-month-old children, born in SF, were accessed through immunization appointments at local health units and telephone surveys. Information gained from the pilot projects led to the ultimate design of the project described in this report.

Surveys were sent to 353 immunizing family physicians in the SF. They were asked about their willingness to participate in the promotion, if they would like additional information about ECC, whether they would be willing to attend an educational session for physicians, and if they would like the educational materials translated into other languages.

The educational materials were translated, based on physicians' requests, into Punjabi to target the large Indo-Canadian population in the region. Currently, the Punjabi versions of the poster and pamphlet advise families to "Visit the dentist early, before age 3". These materials are currently being updated to reflect the CDA recommendations for the first dental visit (Figures 1 and 2).

The materials were peer reviewed and focus tested. Materials were then sent to participating physicians, along with the other requested resources.

Follow-up evaluations were done at three months to determine if the physicians were using the materials, if they were counselling families about preventing ECC and if they agreed the promotion was an effective way to reach families.

Initial survey results

Of the 353 immunizing family physicians who were sent the initial surveys inviting them to participate in the ECC promotion, 34 per cent (120) responded. Thirty-three percent (118) of physicians agreed to participate.

In general, initial survey results showed that physicians were willing to utilize the promotional materials in their practice. Results indicated physicians wanted more oral health information and expressed interest in attending educational sessions about ECC. They also requested educational materials in other languages (Table 1).

Participating physicians' involvement	n = 118	
	No.	%
Displayed small poster about ECC in their office	107	91
Wanted the poster in other languages (predominantly Punjabi and Cantonese)	42	36
Willing to distribute an ECC pamphlet to parent with young children	91	77
Would be interested in attending an educational session on ECC, featuring leading researcher	44	37
Wanted more information or resources on ECC	62	53

Table 1. Initial survey results

Twenty-three percent (27) of responding physicians made additional comments or suggestions about how dental health strategies could be delivered to families with young children, and some of these suggestions were incorporated into program plans.

Examples of physician comments were:

"PSA's on TV, poster/brochures in pharmacies and dentist's offices";

"6 month (oral) checks, handouts on fluoride/care or dental package at birth";

"Display posters where baby bottles are sold."

Only one responding physician, a local pediatrician, felt that it was not the role of physicians to discuss preventing dental caries with their patients. He felt there was enough dental information out there and people could access it from places other than their physician's office.

Three-month follow-up evaluation results

Three-month follow-up evaluation results showed that using family physicians was an effective way to reach families with young children and provide them with information on ECC (Table 2).

Many physicians made additional comments about the project, comments such as:

"The visual impact of the poster is very effective; often parents ask about it and it serves as a reminder to physicians";

"As a result of this promotion, the pamphlets are handed out at our well-baby clinics."

Figure 3. Stickers in Punjabi and English



Physicians' involvement – at 3-month follow-up	n = 38	
	No.	%
Made the materials available to families	30	79
Counselled families about key preventive strategies	35	92
Counselled families about not putting babies to bed with bottles	38	100
Agreed the promotion was a good way to reach families	25	66

Table 2. Three-month follow-up evaluation results

Discussion

This project is ongoing with continued activities focusing on the reduction of ECC involving physicians and other health care professionals. Educational opportunities for physicians, including grand rounds presentations at local hospitals, were held in February 2002. Dr. Rosamund Harrison, Associate Professor and Chair, Pediatric Dentistry, University of British Columbia, spoke about the health consequences of ECC and the cost to our health care system of this preventable disease. She described the risk factors for the disease and the role health care professionals can play in improving the oral health of children.

The SF Community Dental Program regularly submits dental news to the College of Pharmacists of British Columbia's newsletter, *Bulletin*. Pharmacists are often seen as front-line health care providers and are asked questions about dental health.

Translations of the educational materials into Cantonese and Vietnamese are planned. The Punjabi (and English) versions of the materials are now available on the MultiLingual Health Education web site (www.multilingual-health-education.net), which is a database of translated health education material.

A new *Dental Care Checklist* was developed that provides key dental messages for families with young children (Figure 4). Messages correspond with the ages of the immunization schedule. This resource was developed for all health care professionals who see young children, particularly for physicians and public health nurses who regularly immunize.

Conclusion

The BC Children's Dentistry Task Force recommends the development of collaborative models and programs involving dental professionals as well as other health care providers in the prevention of ECC.⁵ The "Reaching Families with Young Children" project succeeded in involving physicians in transmitting dental information to families in their practice. ECC is a complex problem. Physician participation in ECC prevention activities is part of the solution.

It is hoped that future evaluations will show a decrease in the incidence of ECC and the number of SF children needing dental treatment in hospitals.

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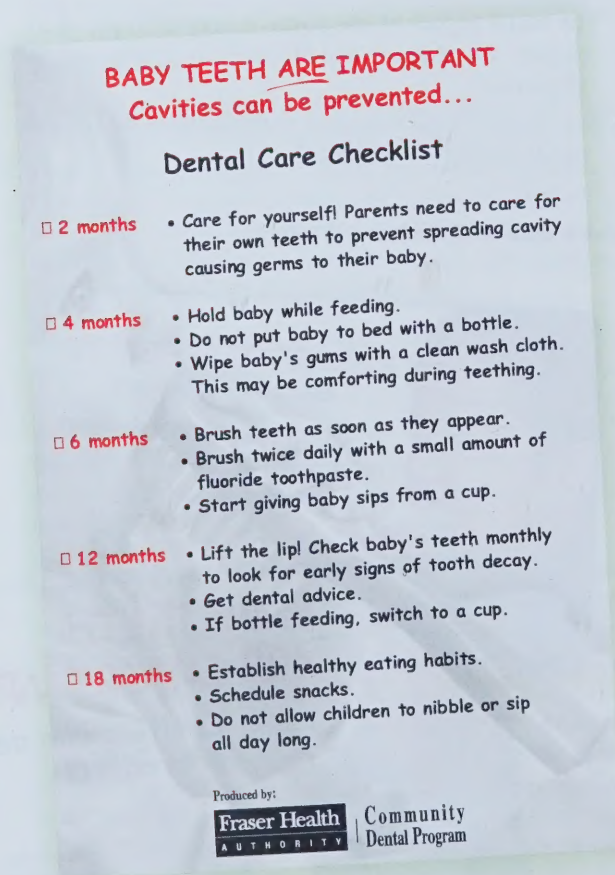


Figure 4. Dental Care Checklist

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¹Hefti AF, Stone C. Univ of FL. *Clin Oral Invest.* 2001; 4:91-97. ²Tritten CB, Armitage GC. *J Clin Periodontol* 1996;23:641-648. ³Knudsen J, Donnellan J. *Private Practice J Prac Hyg.* 1998;7(3):60-64. ⁴McInnes C, Johnson B, Emiling RC, Yankell SL. Univ of WA, Univ of PA. *J Clin Dent.* 1994;5:13-18. ⁵2001 US survey data. ©2002 Philips Oral Healthcare, Inc.

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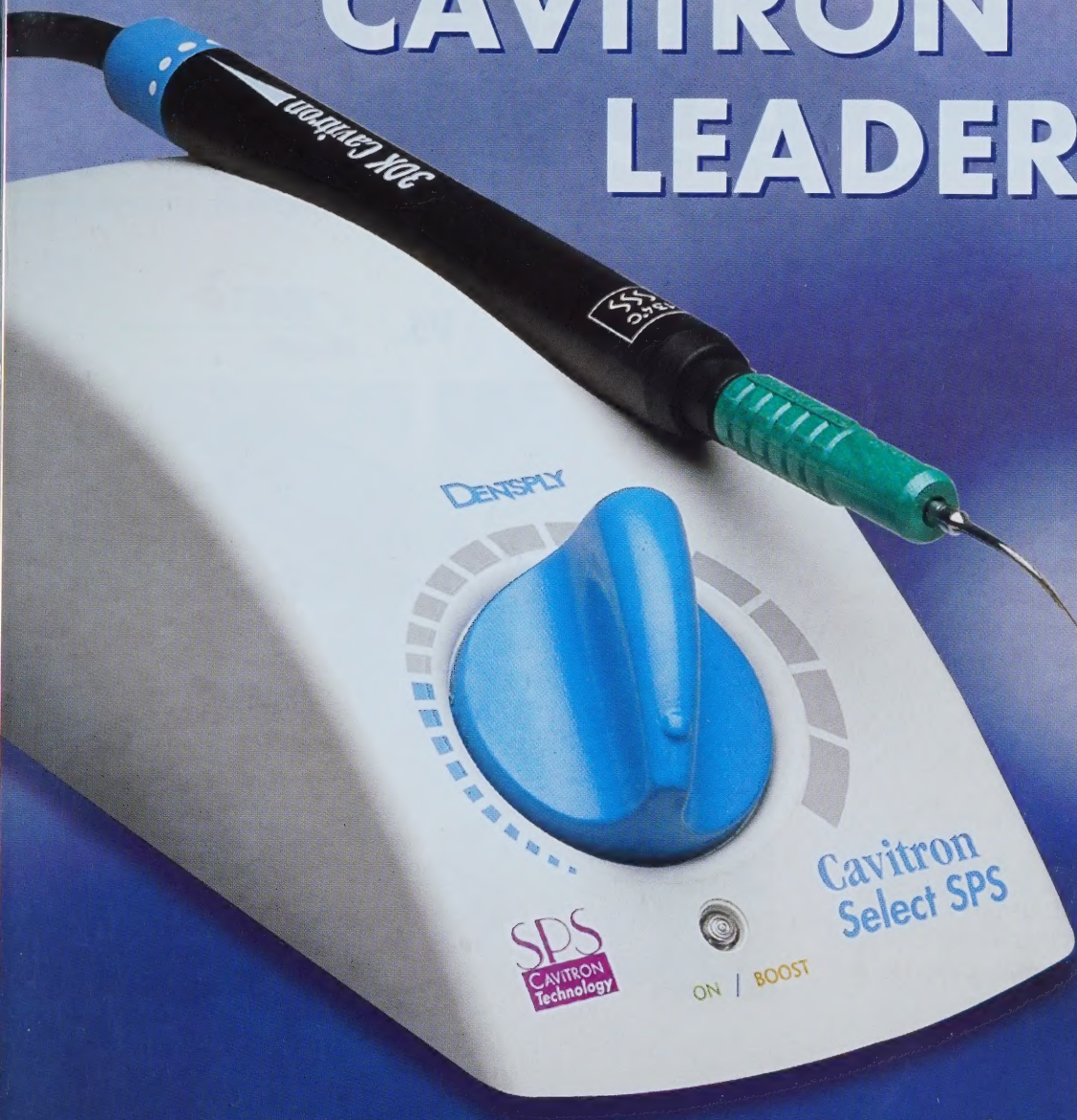
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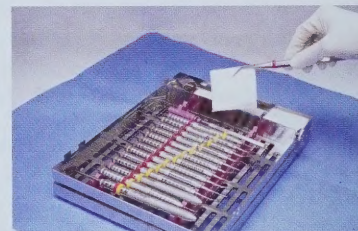
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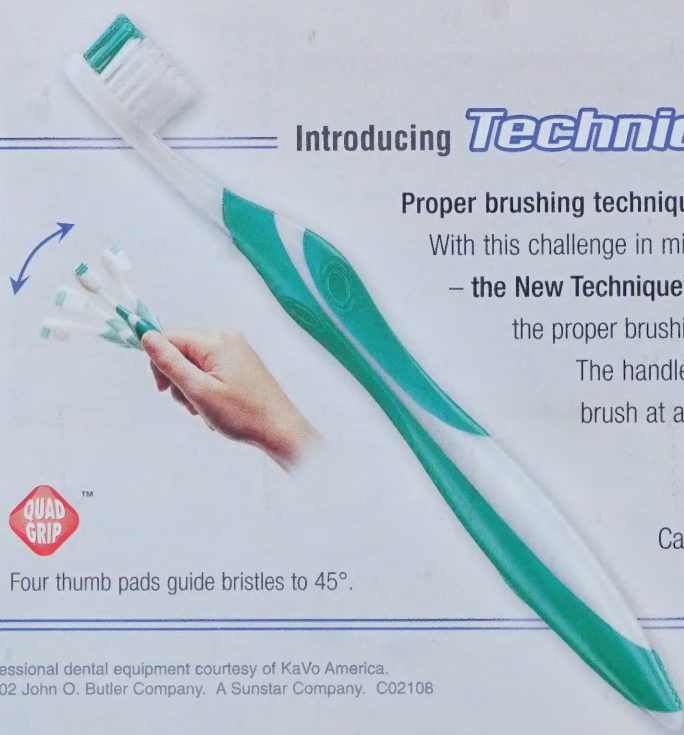
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New Documents Reflect the Changing Face of Dental Hygiene:

A More Accurate View of the Profession

by Barbara Gibb, RDH



Les nouveaux documents reflètent le visage changeant de l'hygiène dentaire :

une vue plus fine de la profession

par Barbara Gibb, RDH

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It's been said that a mind once stretched by a new idea never regains its original dimensions. CDHA recently reviewed two of its major documents, the *Code of Ethics* and *Dental Hygiene: Definition, Scope, and Practice Standards*. This was done to reflect the changes in the profession, especially with self-regulation being a reality for 92 per cent of the dental hygienists in Canada and the emergence of more options in practice settings. We must step out of the familiar and consider the complete range of services and the subsequent value that we, as dental hygienists, can offer and the implications and the possibilities for the future of the profession.

The new *Dental Hygiene: Definition, Scope, and Practice Standards* outlines our key professional responsibilities that include health promotion, education, clinical therapy, research, administration, and acting as a change agent. This process-of-care model for treating clients is much more accurate and complete. It takes into consideration dental hygienists who are venturing further afield, out of the private dental practice into alternative settings, be they long-term care, geriatric, home care, correctional, or remote settings. This document better reflects the value we can offer our clients, our employers, and the community.

In industry, manufacturers carry out a "needs analysis" of their customers using a process called conjoint analysis along with detailed qualitative one-on-one interviews. This is precisely what dental hygienists do in their initial and subsequent dental hygiene assessments. With clients, they help

On a dit qu'un esprit une fois dilaté par une nouvelle idée ne retrouve jamais sa taille d'origine. L'ACHD a récemment révisé deux de ses documents majeurs, le *Code de déontologie* et *L'hygiène dentaire : définition, portée et normes de pratiques*. Le but de ces refontes était de refléter les changements survenus dans la profession, particulièrement alors que l'auto-réglementation est une réalité pour 92 pour cent des hygiénistes dentaires au Canada et étant donné l'émergence d'un plus grand nombre d'options touchant les milieux de pratique. Nous devons sortir du familier et considérer la gamme complète de services et la valeur sub-séquente que nous pouvons offrir en tant qu'hygiénistes dentaires, ainsi que les implications et les possibilités pour l'avenir de la profession.

La nouvelle version du document *L'hygiène dentaire : définition, portée et normes de pratique* décrit nos principales responsabilités professionnelles, qui comprennent la promotion de la santé, l'éducation, la thérapie clinique, la

This document
better reflects the
value we can offer
our clients, our
employers, and
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LE VISAGE CHANGEANT DE L'HYGIÈNE
DENTAIRE... suite à la page 168

CHANGING FACE OF DENTAL HYGIENE...
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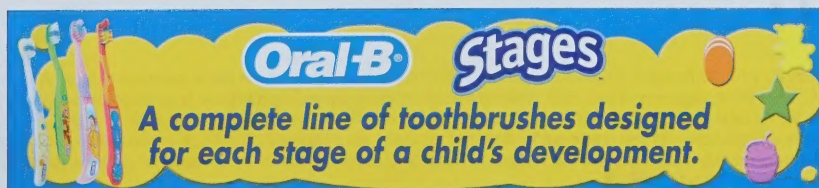
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The study has demonstrated that with adequate calcium and vitamin D, higher intakes of protein are associated with significant gains in bone mineral density (BMD).³ Within the calcium-supplemented group, bone status of the total body was proportionate to protein intake. Those with the lowest protein intakes lost bone, whereas those with the highest

gained enough bone to make a substantial difference in fracture incidence.³ Interestingly, calcium without adequate protein failed to protect the skeleton.

Another recent study of 572 women and 388 men aged 55 years and over has also shown that animal protein is beneficial to BMD.⁴ Analysis of food frequency questionnaires over a four-year period demonstrated a statistically significant positive association between animal protein consumption and BMD for women, with each 15-gram-per-day increase augmenting hip BMD significantly.⁴ In contrast, a statistically significant negative association was observed between vegetable protein and BMD. Although men and women experienced similar results, the associations for men were weaker.⁴

BE SKEPTICAL!

When you hear that animal protein weakens bones, please consider the source. For the most part, groups who advocate against consuming foods of animal origin do so not out of concern for human health, but for animal rights. Studies such as those cited above should help topple the misconception that protein must be bad for teeth and bones because it induces calcium loss. As long as adequate calcium is also consumed, it's a non-issue. The fact is, bone tissue is nearly 50% protein and 50% mineral (of which calcium plays a crucial role)⁵ – and the two act synergistically to promote the construction of new bone. Thus, the value of milk products, with their highly absorbable calcium and high-quality protein, is unequivocal ... to say nothing of toothsome.

References: 1. Reynolds EC. 1987. The prevention of sub-surface demineralization of bovine enamel and change in plaque composition by casein in an intra-oral model. *J Dent Res* 66:1120-1127. 2. Guggenheim B et al. 1999. Powdered milk micellar casein prevents oral colonization by *Streptococcus sobrinus* and dental caries in rats: A basis for the caries-protective effect of dairy products. *Caries Res* 33:446-454. 3. Dawson-Hughes B and Harris SS. 2002. Calcium intake influences the association of protein intake with rates of bone loss in elderly men and women. *Am J Clin Nutr* 75:773-779. 4. Promislow JHE et al. 2002. Protein consumption and bone mineral density in the elderly: The Rancho Bernardo Study. *Am J Epidemiol* 155:636-644. 5. Heaney RP. 2002. Protein and calcium: antagonists or synergists? *Am J Clin Nutr* 75:609-610.



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Entrepreneurship

by Harriet Rosenbaum, DipDH*

Part of my job as executive director of the Manitoba Dental Hygienists Association is to answer the various queries about dental hygiene left on the answering machine. A particular call prompted me to agree when I was asked to write an editorial about entrepreneurship.

This caller was on worker's compensation for an employment-caused medical condition that no longer allowed him to continue in his current job. Worker's Compensation Board would cover job retraining. He was very interested in dental hygiene—he had investigated the educational requirements and checked out the university program. However, the big question was whether this type of work would aggravate his medical condition. My first advice was that the dental hygiene profession was not appropriate, given his health problem. Politely persistent, he inquired about ergonomically correct chairs and units to aid in maintaining proper posture. I explained that these all existed. However, I also said I wasn't sure, even with all those in place, that long-term clinical practice would not exacerbate his condition. I then added that, while clinical dental hygiene might not be suitable, there were many other avenues a dental hygienist could look at.

Over 90 per cent of dental hygiene practice is clinical, yes, but dental hygienists can become entrepreneurs in non-clinical settings. Dental hygienists are employed by dental supply companies as sales representatives; they venture out on their own and form their own consulting companies.

Entrepreneurship is defined as "a person who organizes and manages a business or industrial enterprise, attempting to make a profit but taking the risk of a loss" (*Gage Canadian Dictionary*, 2000). Clinical dental hygienists regularly organize, manage, and assume the responsibility for their clients' overall dental hygiene needs. Dental hygienists organize all aspects of their daily work, for example, care plans,



instruments, and appointment schedules. Management is also an integral part of clinical dental hygiene: clients' dental hygiene needs (and sometimes emotional and financial needs) are managed on a daily basis.

The process of care for dental hygiene includes assessment, planning, treatment, and evaluation. Entrepreneurs need to carry out those same actions to be successful. An *assessment procedure* is equivalent to market analysis: a needs assessment investigates the need for one's product or service; one wouldn't rush off to sell dental hygiene instruments in a community with no practising dental hygienists. *Treatment planning* for a client is similar to planning based on market analysis. If one were marketing oneself to a regional health authority as a consultant, one would plan what information to present, how to present it, and which key groups and individuals

should be present to receive that information. For planning and analysis advice, look at the articles in this copy of Probe, particularly Pat Spencer's "Entrepreneurship" and Margit Juhasz's "Challenges of Setting Up a Business." *Treatment* (as in the dental hygiene care plan) means providing a service to attain the goals set out in the plan that resulted from the assessment. This could be selling a particular dental hygiene instrument to meet the client's needs but also to achieve financial success, gain a satisfied customer, and possibly obtain future referrals. *Evaluation* is the final element of the dental hygiene process of care. Dental hygienists constantly re-evaluate the treatment provided against the initial assessment in order to measure the success of their treatment.

Entrepreneurs follow the same regimen. Follow-up with clients is essential to ensure their satisfaction with a product or service, as well as keeping up the customer relationship.

Then why aren't more dental hygienists entrepreneurs?

Risk—the third element in the entrepreneur definition—might be key here. Working in private practice is safe and comfortable: hours, salary, clients, travel are all pretty constant. Being in business is very risky. Sure, the hours you put in may be your own, you may be working out of your home. But you reap what you sow. You spend many more hours than you would have in private practice in order to earn the same income (but this could be just the initial situation). The hours and salary fluctuate. Your client base can always be

Over 90 per cent of
dental hygiene practice
is clinical, yes, but
dental hygienists can
become entrepreneurs
in non-clinical settings.

* Harriet Rosenbaum graduated from the University of Manitoba in 1981. Harriet taught at the University of Manitoba for 10 years. She currently is a corporate representative for Paradise Dental Technologies Inc., the executive director of MDHA, and in private practice 30 hours a week.

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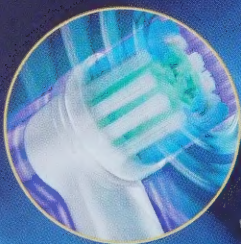
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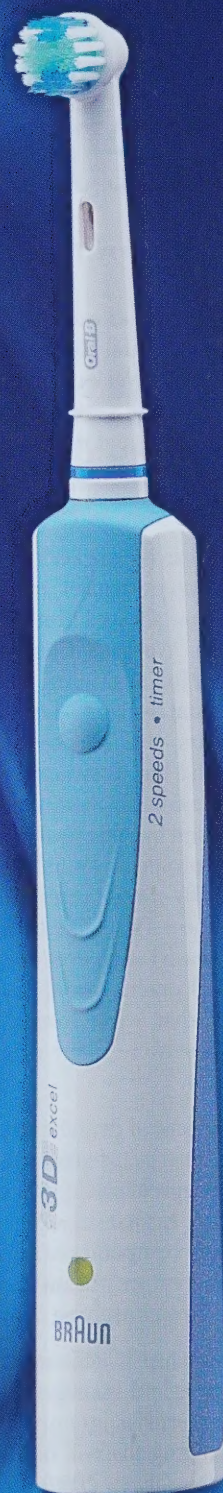
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MESSAGE DE LA DIRECTRICE GÉNÉRALE

Entrepreneurship and Originality

by Susan Ziebarth, CDHA

There is a crucial distinction to be made between innovation and originality. The second, unlike the first, can never break with what preceded it: to be original, an artist must also belong to the tradition from which he departs. To put it another way, he must violate the expectations of his audience, but he must also, in countless ways, uphold and endorse them.

— Roger Scruton¹

Entrepreneurship in dental hygiene is the theme of this issue of *Probe*. And the key to entrepreneurship, according to Peter F. Drucker, the world-renowned management guru, is innovation. But looking at the above quotation from Roger Scruton—describing the difference between originality and entrepreneurship—I believe the entrepreneurial examples we are seeing in dental hygiene are based on originality. Dental hygienists are breaking from the traditions of the past, forging new traditions, but are keeping hold of the underlying beliefs and values. They are not breaking up “teams”; they are reinventing them.

Some people are concerned about linking “entrepreneur” and “dental hygiene.” They feel it somehow makes the work they enjoy in a traditional dental office settings seem less valuable. This is not the case. Traditional practice settings are by far the most common employment situation in Canada and will in all probability continue to be so. People also tend to confuse the concepts of self-regulation and independent practice; I know I did when I first joined CDHA. Perhaps a quick primer could help...

ENTREPRENEURSHIP

The Entrepreneurship Center at Miami University of Ohio has an interesting definition of entrepreneurship: “Entrepreneurship is the process of identifying, developing, and

ENTREPRENEURSHIP AND ORIGINALITY...

continued on page 170



L'entrepreneurship et l'originalité

par Susan Ziebarth, ACHD

Il faut bien distinguer entre l'innovation et l'originalité. Contrairement à la première, la seconde ne peut jamais rompre avec son passé : pour être original, un artiste doit appartenir à la tradition dont il se détache. Autrement dit, il doit tromper les attentes de son auditoire, mais il doit en même temps, et d'innombrables façons, les soutenir et les assumer.

— Roger Scruton¹

L'entrepreneurship en hygiène dentaire est le thème de ce numéro de *Probe*. Et, selon Peter F. Drucker, maître-à-penser de la gestion reconnu dans le monde entier, la clé de l'entrepreneurship, c'est l'innovation. Mais à regarder la citation de Roger Scruton reproduite ci-dessus, qui décrit la différence entre l'originalité et l'entrepreneurship, je crois que les exemples d'entrepreneurship que nous voyons en hygiène dentaire sont basés sur l'originalité. Les hygiénistes dentaires sont en voie de rompre avec les traditions que leur lègue le passé et d'en forger de nouvelles, mais tout en retenant les croyances et les valeurs sous-jacentes. Elles ne défont pas les “équipes”; elles les réinventent.

Dental hygienists

are breaking from

the traditions of the

past, forging new

traditions.

D'aucunes s'inquiètent du lien créé entre “entrepreneur” et “hygiène dentaire”. Elles ont le sentiment que, d'une certaine façon, il fait paraître le travail qu'elles ont plaisir à faire dans un milieu de cabinet dentaire moins valable. Ce n'est pas le cas. Les milieux de pratique traditionnels sont de loin la situation d'emploi la plus commune au Canada et ils vont, selon toute probabilité, continuer à l'être. On a aussi tendance à confondre les concepts d'auto-réglementation et de pratique indépendante ; je sais que je le faisais lorsque je suis arrivée à l'ACHD. Peut-être certaines notions élémentaires pourraient-elles nous aider à faire la part des choses.

L'ENTREPRENEURSHIP ET L'ORIGINALITÉ...

suite à la page 186

Ends Policies of CDHA

At the meeting of the CDHA Board on March 23, 2002, the following Ends Policies were revised and are presented below in their entirety.

Ends Policy E1- Mission/Purpose

The Canadian Dental Hygienists Association, as the collective voice and vision of dental hygiene in Canada, advances the profession in support of our members and contributes to the health and well-being of the public.

1. There is a strong national voice and vision for Canadian dental hygienists.

- 1.1. All jurisdictions in Canada are represented.
 - 1.1.1. Each jurisdiction has one Representative with one vote.
 - 1.1.2. There are Representatives of affiliate stakeholders.
 - 1.1.3. CDHA is a valuable source of information for oral health information.
 - 1.1.3.1. All information is appropriate to the intended audience.
 - 1.1.3.2. Published information is current, credible, accountable and timely.
 - 1.1.4. CDHA defines and creates policy and policy texts for the profession at the national level.

2. The needs of members are met.

- 2.1. Dental hygienists can readily practise in all National and International jurisdictions with minimum constraints and barriers.
- 2.2. There is an organizational support network.
 - 2.2.1. There is a visible Board.
 - 2.2.2. Opportunities are provided for members to interact with their Board.
 - 2.2.3. CDHA office and its resources are accessible to individual members.
 - 2.2.4. There are partnerships established with consumer groups.

- 2.3. The public has direct access to the dental hygienist of choice.
 - 2.3.1. The public knows and understands the role of the dental hygienist.
 - 2.3.2. There will be a National Dental Hygienists' Week annually to promote the profession of dental hygiene.
 - 2.3.3. Third party providers recognize dental hygiene services for reimbursement.
 - 2.3.4. There are no financial or other barriers to the public's access to the services of dental hygiene.
- 2.4. There is a strong research base to support the practice of dental hygiene.
 - 2.4.1. There is a dental hygiene research and education foundation.
- 2.5. Dental hygienists have pride and confidence in themselves and the profession.

3. The profession continues its evolutionary process.

- 3.1. There are diverse practice settings.
- 3.2. There is a strong quality assurance initiative.
- 3.3. There is accountability through self-regulation in all jurisdictions.
- 3.4. There is legislative reform through successful advocacy.

4. Canadians value oral health as part of total wellness.

- 4.1. The research supports the link between oral health and total wellness.
- 4.2. Dental hygienists are partners in interdisciplinary settings.
 - 4.2.1. Health care partners recognize oral health education and promotion as valuable and cost-effective components of services provided.
 - 4.2.2. Governments recognize oral care as an integral aspect of health.

5. There is professional growth for dental hygienists.

- 5.1. There is a national education standard.
 - 5.1.1. There are degree and advanced degree programs in dental hygiene available to the profession in Canada.
 - 5.1.2. All students are enrolled into baccalaureate degree programs as entry to practice by the year 2005.
 - 5.1.3. There are opportunities for professional growth through educational advancement.
 - 5.1.4. There are diverse post-diploma educational opportunities available.
- 5.2. There is ongoing research to contribute to the growing body of dental hygiene knowledge.
- 5.3. There are partnerships established with international dental hygiene organizations.
- 5.4. There are partnerships with other health providers.
- 5.5. There are partnerships established with dentistry.
- 5.6. There is an opportunity for an Annual National Forum or Conference.
- 5.7. There is recognition for leadership in the advancement of the profession.

Don't forget the following important dates:

**International Dental Hygienists' Day
– Wednesday, October 9, 2002**

The IFDH has established an international day focusing on Dental Hygiene to be celebrated annually around the world.



National Dental Hygienists Week™
La semaine nationale des hygiénistes dentaires

October 13 – 19, 2002

As supported by the CDHA Ends Policy
– Mission/Purpose outlined above.

The Political Economy of Dental Hygiene in Canada

by Pran Manga, PhD, MPhil, MHA Program, University of Ottawa

This important study on dental hygiene and its position in the health care field was commissioned by the CDHA and will be published in autumn 2002. The following summary gives you an idea of the contents of this work.

EXECUTIVE SUMMARY

1. Oral health care issues have been generally neglected by governments in Canada.
2. This report unequivocally recommends that provincial governments eliminate regulations that prohibit or inhibit the direct access to dental hygienists by the public. This legislative change would end the monopolistic gatekeeper privileges of dentists.
3. This reform does not entail any new government funding of oral health care, yet it will have significant and far-reaching impacts such as
 - a) Greater access to oral health care for several population groups with worrisome levels of unmet need for oral health services
 - b) Lower costs for patients due to the competition resulting from the new regulatory dispensation; studies suggest reductions of about 20 to 40 per cent.
 - c) More opportunities for integrating oral health care with other health care services
 - d) Substantial increase in the prevention and earlier detection of oral disease, and in oral health promotion
 - e) Greater equity in income and opportunity between male- and female-dominated professions
 - f) More experimentation and innovation in cost-effective oral health care delivery systems
 - g) Greater and genuine freedom of choice for consumers
4. Limiting the comparison of dentists and dental hygienists to the overlapping scopes of practice of the two professions, the evidence supports the following conclusions:
 - a) Dental hygienists are much better educated and trained in their scope of practice than are dentists for the services falling in the dental hygienists' scope of practice.
 - b) Dental hygienists provide a high quality of care.
 - c) Dental hygienists pose no additional, and possibly lower, risk to patients than dental practices.
 - d) Fee levels of independent dental hygienists could be significantly lower and are unlikely to be higher than the same services in dental practices.
 - e) The overall costs for patients will be lowered with direct access to dental hygienists.
5. Dental hygienists should be accorded genuine primary caregiver status for services within their scope of practice. This requires private or public insurance plans to cover their clients for their choice of either dental hygienists' or dentists' services. Insurance plans should treat the two professions fairly and essentially equally.
6. There is no demonstrable benefit to the public for preserving or strengthening the dental monopoly. On the contrary, there is much evidence that the dentists' monopoly privileges generate numerous and substantial costs to society. Governments should have to justify how maintaining or strengthening the dentists' privileges serves the public interest better than does the reform proposed in this report.
7. The proposed reform to permit dental hygienists to initiate care is much more effective than other possible reforms such as enforcing Canada's competition policy, extending Medicare to cover oral health care services, or introducing or expanding categorical public insurance plans.

Ends Policy E2 - Priorities

The Canadian Dental Hygienists Association exists for members to have a strong, collective, influential voice at the national level, for a reasonable commitment of resources.

1. Our major focus is on ensuring that the needs of members are met.

As much as 50 per cent of our resources over the planning period shall be dedicated to activities to ensure that the needs of members are met including:

- 1.1. Seeking to understand the current needs and interests of individual members and develop appropriate strategies to address them.
- 1.2. Supporting efforts to ensure that there is a strong research base. Our current research priorities are supporting professional advancement and supporting the link between oral health and total wellness.
- 1.3. Ensuring advocacy efforts to ensure that dental insurance providers recognize dental hygiene services for reimbursement.
- 1.4. Supporting provinces in their move towards supporting self-regulation.
- 1.5. Ensuring that the annual conference supports the current mission, guiding principles, and ends policies of the CDHA.

2. Our secondary focus is on the professional growth of dental hygienists.

We expect roughly 30 per cent of our resources to be focused on:

- 2.1. Supporting the efforts of educators, and the regulatory bodies, to have all students enrolled in a baccalaureate degree program as an entry to practice.
- 2.2. Educating dental hygienists about the new education standard and its implications for individual hygienists as well as for the future of the profession.
- 2.3. Supporting and encouraging the voice of dental hygiene within the CDAC including the separation of CDAC Committee #2 and the establishment of a distinct standing committee for the review of dental hygiene programs.
- 2.4. Dental hygienists having pride and confidence in themselves and the profession.

3. Our priorities also include (at no less than 20 per cent of available resources):

- 3.1. Ongoing efforts to establish diverse practice settings.
- 3.2. The existence of a strong accreditation process.
- 3.3. Efforts to create and sustain partnerships with
 - 3.3.1. Health providers;
 - 3.3.2. Dental professionals;
 - 3.3.3. International organizations;
 - 3.3.4. Consumers;
 - 3.3.5. Corporations; and
 - 3.3.6. Governments.

Membership Renewal Drive 2002–2003

The Membership Renewal Drive started on September 1st and is now in full swing. Have you received your Membership Renewal package by mail? If not, please contact the CDHA at its toll-free number 1-800-267-5235 or by e-mail at <mmp@cdha.ca>. We would like to remind you that your renewal will take 4–6 weeks to be processed *after* it is received in our Processing Centre. Don't delay—send in your renewal *today* to continue taking advantage of the benefits of membership!



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"CHANGING FACE OF DENTAL HYGIENE..." (continued from page 155)

identify needs and wants, give them treatment options, implement the agreed-upon treatments (of which scaling may likely be a part), and then subsequently evaluate the treatment and modify it as needed. I believe more and more consumers are willing to pay for services they value rather than basing their choices only on price—as long as they believe they are being treated as a unique individual. They need and want to have their oral condition and options for treatment (including no treatment) explained in language they can understand as well as the consequences of treatment or non-treatment. The true value offered by dental hygienists is in a complete process-of-care model for treating clients.

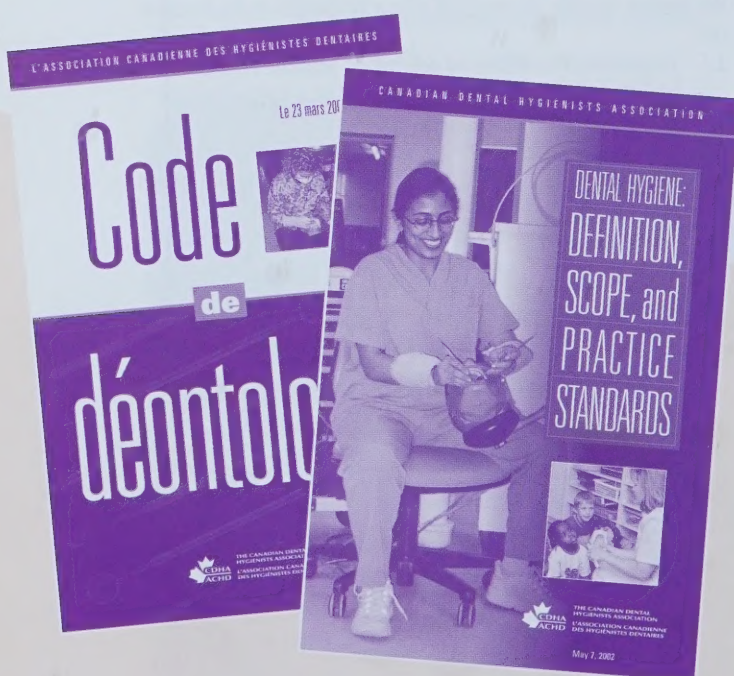
Traditionally there has been a word association with dental hygienist and scaling. Dental hygiene is so much more. We must lose the mindset of linking scaling exclusively to dental

hygiene, and we must educate our employers. Scaling is only a small portion of what we offer clients in the total "process of care." When we or our employer associates our value only with technical skills, we are vulnerable to having that skill performed in isolation by another health care provider. Although an employer may appear to value you as a producer within the practice in units of scaling, I believe the true, long-lasting worth of the services you provide comes from the long-term relationship with the client. This includes the education, motivation, and support offered to the client—on what is happening in their mouth, how it can impact the rest of their health (or vice versa), and the home care tailored to the individual. And this is what will make a long-term difference in a client's mouth and in his or her overall health and well-being.

We must focus on placing a high value on the complete range of services we are uniquely prepared to provide. To communicate the true value of oral health services offered by dental hygienists, we must believe it ourselves. The combination of all that dental hygienists can and do provide in a wide array of practice settings makes us well positioned for the future. I invite you to read the document that accompanies this issue of *Probe* or read it on the CDHA Web site at <www.cdha.ca>. Exercise your professional responsibility and open your mind to the possibilities. You may view your profession in a new light and with a well-earned sense of pride.

As CDHA president, I have had the privilege of representing, meeting, and communicating with and on behalf of you. It has been an opportunity for both professional and personal growth. I thank the CDHA board and Susan Ziebarth and her staff for sharing the experience and responsibility of association leadership. I am indeed fortunate: I had the distinct pleasure of meeting many of you—in person, on paper, or via e-mail—and the enthusiasm, resolve, and perseverance I have witnessed make me very proud to be a professional dental hygienist.

Barbara Gibb can be reached at <president@cdha.ca>.



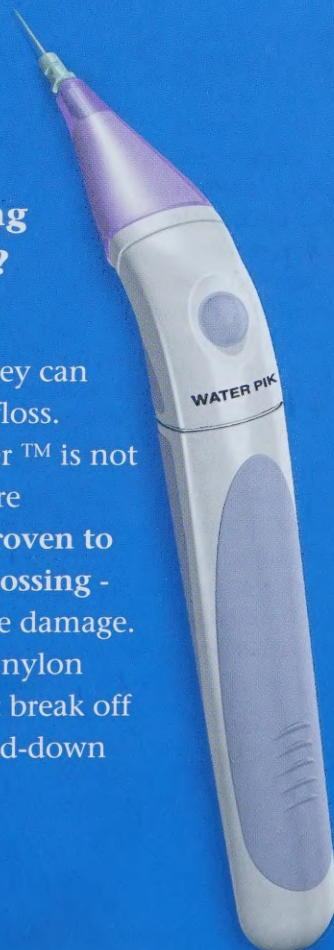


DEFIANCE

COMPLIANCE

**Having trouble getting
your patients to floss?**

With the the new Water Pik Flosser™, it's automatic. They can forget old-fashioned dental floss. Because the Water Pik Flosser™ is not only easier, quicker, and more convenient, it's **clinically proven to be as effective as manual flossing** - without producing soft tissue damage. Though it's gentle, its single nylon filament is so strong it won't break off between teeth, and its up-and-down



action at 10,000 gentle strokes a minute ensures thorough, one-handed cleaning. Plus, the Water Pik Flosser™ is portable, so patients can practice sound oral hygiene even on the road. Perhaps best of all, it's from Waterpik Technologies, the company you trust for the best in oral health innovation.



www.waterpik.com

changing and growing, depending on how creative you are as an entrepreneur. I believe that creativity and flexibility are vital for success. Entrepreneurs have to be able to adapt to change, positive or negative, and think on their feet to be successful in business. But rest assured, dental hygienists do that daily in their clinical lives dealing with difficult clients, staff, or insurance companies.

Dental hygienists possess all the qualities needed to become successful entrepreneurs. What separates the successful from the average entrepreneur is desire, tenacity, and endurance. To leave our comfortable careers in private practice, we have to really want and be ready to venture into something new. Making a leap into a new career is scary but if one is persistent, it can be invigorating and rewarding. Dental hygienists have a vision of how they can fit in the business world. I see

them designing dental hygiene instruments, selling products, developing a hygiene practice management system, consulting with schools, governments, and private industry. As you can tell, I am a big advocate of dental hygienists as entrepreneurs.

Some educational facilities already teach practice management as part of their curriculum and I hope more will do so in the future. Practice management is part of the dental curriculum because dentists own businesses. I believe that dental hygienists should have the same opportunity.

All this returns me to the caller. He certainly may enjoy the traditional clinical practice of dental hygiene for as long as he is capable, or he may be an entrepreneur. He may be the next dental hygienist you meet on the lecture circuit. The sky is the limit! My main point is he should be allowed the opportunity. 

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"LE VISAGE CHANGEANT DE L'HYGIÈNE DENTAIRE" (suite de la page 155)

recherche, l'administration, et le fait d'agir comme agent de changement. Le modèle du processus de soins pour traiter les clients est beaucoup plus précis et complet. Il prend en considération les hygiénistes dentaires qui s'aventurent dans des champs plus éloignés, sortant de la pratique privée de l'art dentaire pour aller dans des milieux alternatifs, qu'il s'agisse de soins à long terme, de soins gériatriques, de soins à domicile, ou dans des institutions pénitentiaires ou des endroits éloignés. Ce document reflète mieux la valeur que nous pouvons offrir à nos clients, à nos employeurs et à la collectivité.

Dans l'industrie, les fabricants font une "analyse des besoins" de leurs clients en faisant appel à un processus appelé analyse conjointe, accompagnée d'entrevues individuelles qualitatives détaillées. C'est précisément ce que font les hygiénistes dentaires dans leurs évaluations, initiales et subséquentes, d'hygiène dentaire. Avec leurs clients, elles aident à identifier les besoins et les désirs, leur présentent des options de traitement, font la mise en œuvre des traitements convenus (dont le détartrage peut fort bien faire partie), pour subséquemment évaluer le traitement et le modifier en fonction des besoins. Je crois de plus en plus que les consommateurs paient volontiers pour des services auxquels ils accordent de la valeur plutôt que de baser leurs choix seulement sur le prix – tant et aussi longtemps qu'ils croient qu'ils sont traités comme une personne unique. Ils ont besoin et veulent qu'on leur explique leur condition buccale et leurs options de traitement (y compris l'option d'aucun traitement) dans un langage qu'ils peuvent comprendre, ainsi que les conséquences du traitement ou de son défaut. La vraie valeur offerte par les hygiénistes dentaires réside dans un modèle complet de processus-de-soins pour traiter les clients.

On a traditionnellement associé les mots hygiéniste dentaire et détartrage. L'hygiène dentaire est beaucoup plus que cela. Nous devons perdre l'attitude mentale ancrée de lier le détartrage exclusivement à l'hygiène dentaire, et nous devons éduquer nos employeurs. Le détartrage n'est qu'une petite portion de ce que nous offrons à nos clients dans le "processus de soins" total. Lorsque nous-mêmes ou notre

employeur associons notre valeur seulement aux compétences techniques, nous sommes vulnérables nous nous exposons à ce que cette compétence soit exercée isolément par une autre pourvoyeuse de soins de santé. Même si un employeur semble vous apprécier comme producteur au sein de la pratique, en unités de détartrage, je crois que la véritable valeur durable des services que vous dispensez découle d'une relation à long terme avec le client. Cela comprend l'éducation, la motivation, et le soutien offert au client – sur ce qui se produit dans leur bouche, comment cela peut avoir un impact sur le reste de leur santé (ou inversement), et les soins à domicile adaptés à la mesure de chacun. Et c'est ce qui fera une différence à long terme dans la bouche d'un client et dans sa santé générale et son bien-être.

Nous devons nous concentrer sur l'idée de placer une valeur élevée sur la gamme complète de services que nous sommes les seules préparées à dispenser. Pour communiquer la vraie valeur des services de santé buccale offerts par les hygiénistes dentaires, nous devons y croire nous-mêmes. La combinaison de tout ce que les hygiénistes dentaires peuvent offrir et offrent dans une large gamme de milieux de pratique nous place en bonne position pour l'avenir. Je vous invite à lire le document qui accompagne ce numéro de *Probe* ou à le lire sur le site web de l'ACHD, au <www.cdha.ca>. Exercez votre responsabilité professionnelle et ouvrez-vous l'esprit aux possibilités. Vous pouvez voir votre profession sous un nouveau jour et avec un sens de fierté bien mérité.

En tant que présidente de l'ACHD, j'ai le privilège de vous représenter, de vous rencontrer et de communiquer avec vous ou en votre nom. Ce fut une occasion de croissance à la fois professionnelle et personnelle. Je remercie le conseil de l'ACHD et Susan Ziebarth et son personnel d'avoir partagé l'expérience et la responsabilité du leadership de l'association. Je suis vraiment chanceuse : j'ai eu le plaisir distinct de rencontrer un grand nombre d'entre vous, en personne, sur papier ou par courriel, et l'enthousiasme, la détermination et la persévérance dont j'ai été le témoin me rendent très fière d'être une hygiéniste dentaire professionnelle.

On peut communiquer avec Barbara Gibb à l'adresse <president@cdha.ca>. 

Oral-B Health Promotion Awards Announcement

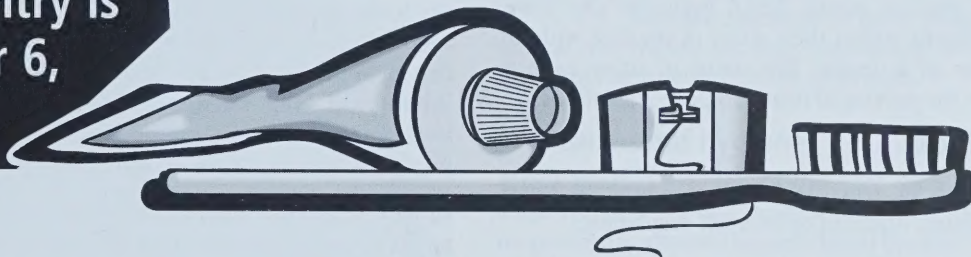


We want to hear how creative you've been in promoting your profession this year. Send us your stories and photos. Entries will be judged on their creativity, planning, volunteer recruitment, educational elements, community impressions and impact as well as innovative partnerships. Entries must be received by December 6, 2002 at CDHA, 96 Centrepointhe Drive, Ottawa, Ontario, K2G 6B1.

To help you get your submission ready, please e-mail us at info@cdha.ca, call toll-free 1-800-267-5235, or fax us at 613-224-7283 to request an Oral-B Health Promotion Award kit.

The materials in this kit include Oral-B Periodontal Atlas; CrossAction/Satinfloss brushing and flossing poster; Oral-B 3D Excel and CrossAction easels with patient education materials; Oral-B Toothbrush/ Interdental products and Floss samples; Keep your Teeth for Life pads; Stages 1, 2, 3 and 4 toothbrush samples, a Stages Diploma kit with goodie bags and brushing diplomas; and a 2002 product catalog —in total, a \$150 value *free*. Please specify English or French. Quantities are limited so order NOW while supplies last!

**Remember
—the deadline
for submission
of your entry is
December 6,
2002.**



La Bourse Promotion Santé Oral-B - Annonce

Dites-nous dans quelle mesure, cette année, vous avez exercé votre créativité pour faire la promotion de votre profession. Faites-nous parvenir des anecdotes et des photos. Les envois seront jugés par rapport à leurs résultats au niveau de la créativité, de la planification, du recrutement de bénévoles, des éléments éducatifs, des impressions faites sur la collectivité et de leur impact ainsi que sur la dimension innovatrice des partenariats créés. Les envois doivent parvenir à l'ACHD au plus tard le 6 décembre 2002, 96 promenade Centrepointhe, Ottawa, Ontario, K2G 6B1.

Pour qu'on puisse vous aider à préparer votre présentation, faites-nous parvenir un courriel à info@cdha.ca; ou appelez sans frais le 800-267-5235 ou télécopiez au 613-224-7283 recevoir la trousse pour la Bourse promotion santé Oral-B.

Cette trousse contient l'Atlas périodontique d'Oral-B, une affiche CrossAction/Satinfloss, sur le brossage des dents et l'usage de la soie dentaire, des présentoirs 3D Excel Oral-B et CrossAction contenant des dépliants à l'intention des patients; également, des brosses à dents et produits interdentaires Oral-B ainsi que des échantillons

de soies dentaires; des blocs de recommandation « Gardes vos dents pour la vie »; des échantillons des brosses à dents pour Stages 1, 2, 3, et 4 avec une trousse de diplôme des Stages assortie de sacs de douceurs et de diplômes de brossage; et un catalogue des produits pour 2002 — une valeur au totale de 150 \$ *gratuitement*. Veuillez spécifier si les documents doivent être en anglais ou en français. Les quantités étant limitées, commandez **DÈS MAINTENANT** avant l'épuisement des stocks !

**N'oubliez pas—la
date limite pour la
présentation de votre
participation est le
6 décembre 2002.**

Get involved and you could win!

\$5,000 in prizes!

Enter by Friday, December 6, 2002

- Individuals \$1,000;
- clinic teams \$2,000; and
- dental hygiene schools \$2,000

**Half of each prize will be shared
with the winner's local dental
hygiene chapter.**

Participez et vous pourriez gagner!

5 000 \$ en prix!

**Inscrivez-vous au plus tard le vendredi
6 décembre 2002**

- Individus, 1 000 \$;
- équipes de cliniques, 2 000 \$; et
- écoles d'hygiène dentaire, 2 000 \$

**La moitié de chaque prix sera partagée
avec le chapitre local de l'association
d'hygiène dentaire de la gagnante.**

bringing a vision to life. The vision may be an innovative idea, an opportunity, or simply a better way to do something. The end result of this process is the creation of a new venture, formed under conditions of risk and considerable uncertainty." This issue of *Probe* highlights some of those who are building upon the past to create something new for the future.

INDEPENDENT PRACTICE

The independent practice of dental hygiene is often visualized as a freestanding dental hygiene practice but it is only one form of direct access to dental hygiene care. The goal is to increase the public's access to care, not to have dental hygienists working in isolation from dentists or other health providers. The freestanding dental hygiene practice may look very different from a traditional dental office, depending on the dental hygienist's area of focus. It is interesting to note that this term was coined by organized dentistry.

UNSUPERVISED PRACTICE

Unsupervised practice means dental hygienists can make treatment decisions within their scope of practice without the supervision of a dentist. The status of supervision is defined within the provincial dental hygiene regulations.

SELF-REGULATION

Let's look outside of dental hygiene to see how the Royal College of Nursing, Australia defines self-regulation:

"the governance of nurses by nurses in the public interest".... "The processes of self-regulation are aimed at "providing evidence that practitioners are meeting society's expectations and maintaining expected standards of practice".... Professional self-regulation is not simply defined but contains a number of elements each of which contributes to and is accountable for the overall purpose of the protection of the public. Elements of self-regulation include: setting of professional standards; development of a Code of Ethics and a Code of Professional Conduct; peer review; participation in professional activities and continuing education; research; uncovering new knowledge; professional publications; developing and monitoring advanced practice, and credentialing and certification processes. Individual professional accountability and consumer expectations also contribute to self-regulation through expectations of standards of practice and behaviour.

It is argued...that if nurses do not act in a cohesive manner in developing and implementing mechanisms for control over their practice, it will remain difficult to claim full professional status and non nursing groups will seek to exercise control over nursing.²

In other words, self-regulation means being accountable to the public for your actions.

These concepts are all distinct, but at times they are erroneously tied together. Self-regulated does not mean unsupervised; unsupervised does not mean independent; and self-regulated does not mean independent. When you are speaking or reading about these issues, try and keep the different meanings distinct in your mind.

Other issues are often linked as well. Organized dentistry currently is stating there is a shortage of dental hygienists. There is no valid evidence to support this claim. Organized dentistry's concerns about self-regulation are tied to fears that dental hygienist entrepreneurs will become competition and be unavailable as employees. The baccalaureate level of education that CDHA is promoting is also a concern, as more formally educated dental hygienists will have more options open to them as they proceed through their career. Letters from organized dentistry to their members address their concern about higher wages. They look at increasing the supply of dental hygienists to drive wages down or at increasing the scope of dental assistants.

In the July/August issue of the *Journal of the Canadian Dental Association*, President Dr. George Sweetnam stated: "Complicating the picture is the movement by the hygienists' leadership to promote a baccalaureate degree as qualification. Dentists view this as a counterproductive measure that would do nothing to alleviate the hygienists' shortage. While respectful of the wishes of hygienists to advance their level of education, the need for it is not evident. Present-day training is seen as adequate for the dental office setting."³

Perhaps organized dentistry should be aware of factors that might be causing the perceived shortage of dental hygienists:

- lack of respect for dental hygienists as professionals;
- focus on generating funds rather than client care;
- focus on cosmetics rather than health;
- scaling as a technical function rather than a component in a process of care.

The use above of the terms "training" and "hygienists" is indicative of the lack of respect.

Although you might be very comfortable today in a traditional office setting, doesn't the thought of other possibilities over the course of your career interest you? Let's applaud the dental hygienists who are embarking on "original" territory. And let's not get bogged down in misinformation and confusion about the goals of dental hygiene to be self-regulated across the country and to have the doors of education open.

1. R. Scruton: In Defence of Bourgeois Man, *Untimely Tracts* (New York: St. Martin's, 1987).
2. Royal College of Nursing, Australia: Position Statement: Self-regulation. [Cited August 9, 2002.] <www.rcna.org.au/RCNAPolicies/PSProfessionalSelfRegulation.html>
3. Dr. G. Sweetnam: A Potpourri of Concerns, *JCDA* 68 (7): p. 389, 2002

ALTERNATIVE PRACTICE

by Melinda M. Ferguson BSc, RDH, BBA*



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Provincial statistics suggest that fewer than 10 per cent of dental hygienists work in alternative practice settings, those settings outside the traditional general dentist practice.¹ Alternative practice does not drain dental hygiene human resources from general practice settings or decrease the availability of care; rather, it provides care and preventive services to a wider cross-section of the underserved population. At the same time, it facilitates the education of other professionals, dental and non-dental, increases professional satisfaction, and increases retention within the profession.

Clinical dental hygiene

Alfred Fones, DDS, coined the term "dental hygienist" in 1913. He "believed that the new profession should be based on preventing disease through dental hygiene treatment and education of the public. He also believed that these services did not necessarily need to be provided within dental offices, under the direction of a dentist."²

Since that time, dental hygiene has grown into an international, multi-faceted profession. In traditional practice, dental hygienists perform oral health assessments; provide nutritional counselling and individualized self-care programs for prevention; examine head, neck and oral regions for disease; perform oral cancer and blood pressure screenings; take and process x-rays and perform other diagnostic tests; provide services that help prevent gum disease and caries. These services would include, for example, removing deposits from teeth, applying sealants and fluoride, placing and removing temporary fillings and periodontal dressings, removing sutures, and taking impressions. In some provinces, dental hygienists, with specialized education in a specific area, may also provide services such as administering local anesthetics, nitrous oxide/oxygen analgesia; placing and carving filling materials; and carrying out additional periodontal procedures such as gingival curettage.

* The author is a 1988 dental hygiene graduate of Dalhousie University School of Dentistry, Halifax, N.S. She received her BSc and BBA from St. Francis Xavier University, Antigonish, N.S. While continuing to practise on a part-time basis, Melinda operates her desktop publishing company (Melinda M. Ferguson Inc.), is the editor of *Professional Hygiene Development Services Newsletter*, publisher of *the Dental Auxiliary Magazine (DAM!)*, and runs a series of study clubs and workshops in conjunction with Dr. Andrew Shannon, Vancouver, B.C. Melinda can be reached at <mmf@telus.net> or (604) 683-6604.

The hygiene realm extends far beyond the boundaries of traditional general practice. There are specialty practices in periodontal offices, pediatric practices, prosthodontic offices (prosthodontic module and/or restorative module required in some jurisdictions), and orthodontic practices (ortho module required in some jurisdictions). Other clinical dental hygienists employ their skills in cosmetic practices. Where legislation and training permit, some dental hygienists place resin and amalgam restorations; others administer anesthetic and/or nitrous oxide.

The increased oral health awareness in recent years has seen a further expansion of dentistry and dental hygiene into novel/boutique-like clinics, such as Fresh Breath Clinic® (think Anne Bony, Toronto), whitening clinics, Oral Cancer and Smoking Cessation clinics (think Ruth Lunn, Vancouver, in conjunction with the BC Cancer Agency), holistic practices (Kathryn Harwood has worked in a number of these venues in Nelson and Vancouver).

Autonomous practice

A number of dental hygienists in self-regulating provinces have created autonomous practices. This is as Dr. Alfred C. Fones intended. In his original vision of dental hygiene, we were independent.

Research shows "entrepreneurial hygienists or independent hygienists have been scientifically judged to have equal or better practices than their counterpart dental offices with hired hygienists. Clients who had never visited a dentist in their lifetime were motivated by independent hygienists to seek out a doctor."³

These are the freestanding dental hygiene clinics you've read about over recent years in other issues of *Probe*. Their founders are often recruited to speak in support of ambitious groups trying to create awareness of the benefits of independence and professional autonomy. The most familiar name might be University of Alberta graduate, Arlynn Brodie, who established British Columbia's first freestanding clinic (June 1995) and is still "up and running." Paula McAleese operates a dental hygiene clinic in Abbotsford, and there are also a number in the Victoria area of British Columbia as well. These hygiene practices are likely to increase in number as dental hygienists become self-regulating and governments become more concerned about access to dental hygiene care.

Public health

Perhaps the other most-commonly-thought-of alternative avenue for dental hygiene practice is working in public health and school districts providing oral health assessments, referrals and preventive services, and developing educational strategies to change health behaviours of clients. Prince Edward Island's Dorothy Peters, Annabelle Allen, and Thelma Reed were the first dental hygienists employed in public health. In 1950, they worked in the dental division of the provincial department of health.⁴ The federal government also hired its first dental hygienist in 1950; Andrée Hébert Brunelle was employed in the Department of National Health and Welfare in Ottawa.⁵

According to Bernice Doucet at Meteghan Centre Public Health Services in Nova Scotia, public health has changed a lot since she first joined their team in 1975. "Back then hygienists worked in isolation, visiting schools, doing screenings, prophies and fluorides as well as oral hygiene instruction and elementary classroom education. After three and a half years, Ms. Doucet returned to private practice to prevent the rest of her hygiene skills from becoming 'rusty.'" After 11 years in private practice, she was again ready for a change and returned to public health. Opportunities in this field have expanded in recent years due to the wider recognition that oral health is indeed an integral part of overall health.

Today Ms. Doucet finds her position more a part of a multi-disciplinary school health team. "Although our priority is oral health, we are involved in other programs delivered by Public Health. I am responsible for the weekly fluoride mouth rinse program in seven elementary schools. This involves setting up the program in the schools in September and maintaining contact throughout the school year." "I do oral health presentations in elementary schools, preschools, mom and babe groups." "Other Public Health initiatives I am involved in include KATS (Kids Against Tobacco Smoke), primary registration, health fairs for primary to grade 2 students (in both French and English) and I am a member of the Provincial Fluoride Mouthrinse Steering Committee."

Generous paycheques are not commonly cited when public health hygienists are asked to explain what attracted them to their jobs. Penny White, senior dental hygienist and dental program coordinator with the Leeds, Greenville and Lanark District Health Unity in Ontario, took a huge cut in salary when she left private practice after five years. She finds that the benefits, flexibility, and personal growth afforded by the public health setting are amazing and continue to be very rewarding even as her 12th anniversary with the health unit draws near. Bernice Doucet likewise enjoys the flexibility and autonomy in her public health workplace.

The Ontario Ministry of Health outlines mandatory programs that the unit must provide: dental screening in elementary schools, CINOT (Children in Need of Treatment) program, dental clinics, Dental Indices Survey. All public health hygienists agree the most rewarding aspect is the ability to develop and implement new programs to meet the

Private Practice	Public
Patient	Community
Assessment	Survey
Dental hygiene diagnosis	Analysis
Treatment plan	Program planning
Implementation	Implementation
Fee/payment	Budget/financing
Patient evaluation	Program evaluation

Table 1. Differences between private practice and public health

needs of the community. One such program in Ontario is the Youth Program to provide financial assistance for treatment for youth in urgent dental need. Previously there had been nothing for youth or adults unless they were receiving social assistance. The unit also provides dental assessments and scaling for adults in need, in return for a donation that helps support the emergency treatment program for adults.

Dental hygienists are involved in public health because they have a passion. A minimum of two-to-three years' work experience in private practice is an asset. The ideal candidate is a person with some knowledge of program planning, management, and evaluation, and who may have done some community-wide assessments or surveys. Solid clinical experience is an asset. It is necessary to have an understanding of the ethnic and demographic diversity of the population. The dental hygienist needs to be an educator who cleans teeth on the side and is able to move from one-on-one presentations to making presentations to 50 or more people.

Access to care is still a huge problem all across Canada. There continues to be a great need for public health dentistry/dental hygiene. Despite advances in health care developments, Sally Guy of the Sudbury and District Health Unit reports that areas like Sudbury continue to show an "increase in dental decay rates for children aged 3-5 years." The need is obvious.

Public health, however, is an area of care that can disappoint people who need to see immediate progress. Implementation of programs can take years, and considerable work can be expended on programs that are never implemented. Funding is often hard to come by. Patience is needed to observe results of preventive programs once they are up and running. With recent government and municipal cutbacks, there has been organizational restructuring. The Leeds, Grenville and Lanark District Health Unit recently had its dental hygiene staff cut from five to three and also lost two certified dental assistants. The challenge now is to deliver the same programs with fewer staff as the caseload continues to grow.

For Sally Guy, the hardest adjustment to public health proved to be the lack of clinical hands-on, especially after working previously for five years in a progressive private practice where she spent two days doing restorative and two days doing traditional dental hygiene. The Sudbury and District Health Unit where she works has three dental educators and three hygienists—one as manager of the unit, one full-time, and one part-time—to serve approximately 800 needy families in the area who fall under the CINOT program.

Long-term care/mobile hygiene

As our baby boomer population reaches "maturity," our acute and extended-care facilities require dental hygienists to provide clinical and educational services for patients and residents, provide staff training, and serve as advocates and change-agents to ensure that the health care needs of their diverse population are met.

Barbara Crosson, a British Columbia dental hygienist since 1966, provided the first mobile oral hygiene services to

Victoria area residents in 1995.

Leanne Adkin's move to residential care/independent practice was prompted by a UBC Community Health Course project in residential care and the need/desire to follow through for the benefit of the residents and their families. Her prior private practice work with a like-minded dentist working at an extended-care unit further cemented the need to go into the community when she saw the difficulty residents had travelling to and from the office. Now in her sixth year in this independent environment, Ms. Adkin finds she enjoys the flexibility of work hours and/or days and is gratified by the satisfaction and feedback she gets from the elderly and their families. Other clinicians in long-term care also report a greater respect from their hygiene colleagues. The most challenging issue for Ms. Adkin is dealing with dementia and the non-compliant patient.

As Pat Spencer points out in her article in this issue of *Probe* (page 181), red tape is a problem: the Royal College of Dental Surgeons of Ontario order for scaling services, the 365-day rule of the College of Dental Hygienists of British Columbia/College of Dental Surgeons of British Columbia, and direct supervision requirements in other provinces.

Working in extended care doesn't necessarily mean hanging up your private practice hat. Lorna Yeomans works four days a week in "traditional" practice. On the fifth day, for the past year and a half, she has made herself available to two long-term care facilities to provide oral assessments and oral health care recommendations to clients and care providers, and to offer related staff training. These clients are not able to access a dental office easily. The assessment provides referrals, assessment, and treatment, as necessary. She reports, "The clients themselves are very cooperative and many times enjoy the attention. They have often mentioned that they always took care of their teeth before and have felt very unsure of their dental condition since coming to the facility."

While no minimum education (aside from your dental hygiene licence) is required, Ms. Adkin holds her certified dental assisting certificate, a diploma in dental hygiene, a bachelor of dental science, and her residential care registration for British Columbia. She notes that "excellent interpersonal skills are required—the job calls for the skills of a teacher, care-giver and psychologist, and understanding the provincial health care system helps."

Interest in this area of practice continues to increase. The applications for residential care registration in British Columbia alone increased 33 per cent last year.⁶ Interested persons should not look in the employment column for a position: you need to design your own job, present it to the organization, and sell yourself and the need for your services.

Hospital

The July/August 2002 issue of *Probe* contained a feature by Anne Clift describing her position in a Newfoundland hospital. Trudy Hebbs works for the Toronto Rehabilitation Centre. You can read more on this aspect of dental hygiene in Ms. Clift's article.

The University of Victoria presents the fourth annual

Current Concepts in Dentistry

Victoria, British Columbia
Sat. to Tues., Nov. 9 to 12, 2002

This annual continuing professional education event is designed for the whole dental team. The quality of speakers is exceptional, and you will receive timely information on the latest developments in dental care.

Emerging Infection Control Challenges: Science vs. Perception with Dr. John A. Molinari

Scientific and clinical information to assist dental professionals in the application of effective and practical infection control will be presented in this session. Topics include risk assessment, risk management and prevention of infection.

Medical Emergencies in the Dental Practice: Prevention and Management with Dr. Daniel Haas

Basic principles for the prevention and management of medical emergencies in the dental office will be highlighted. Discussion will include important drug interactions and the management of the medically compromised patient. A review of emergency equipment and the pharmacology of resuscitative drugs will follow. Dentists receive a basic emergency drug kit.

Orthodontics in General Practice with Dr. Timothy Foley

This session will expose participants to the numerous changes that have benefitted the discipline of orthodontics in the past few years. Some of these include the new and more reliable cementing materials, more reliable bonding materials and new and more reliable archwires. As in any dental discipline case selection and diagnostic principles are paramount for effective treatment.

Implantology A to Z: A Complete Overview with Dr. Hans-Peter Weber

A broad range of topics related to implant dentistry that interest the general practitioner will be featured. Topics include current concepts in osseointegration, treatment-planning considerations, implant placement, restorative procedure for dental implants, and implant maintenance.

For further information, please visit our Web site at www.uvcs.uvic.ca/hlthsci/dental/, or contact:

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DIVISION OF CONTINUING STUDIES
UNIVERSITY OF VICTORIA



National Defence/Canadian Forces

The history of dentistry in the Canadian military began in 1900 during the Boer War in South Africa. It did not take long for the Canadian Army Dental Corps to earn the recognition of outsiders. In 1915, the president of the British Dental Association wrote: "The Canadian Army is the only army in the world that attempts to send its soldiers to the front dentally fit, and keep them fit."

Until recently, the Canadian Forces (CF) trained its own dental hygienists. To become a dental hygienist, Warrant Officer Lesley Breau "had to be ready for a junior leadership course, already be a dental assistant, have enough time in rank (corporal), be ready for promotion and recommended by a commanding officer. The hygiene course is a career course, so if we fail the course, it means a career review board and possible release."

"The training (for hygiene) was fast and furious," "the instructor/student ratio 1:2." "There was no focus on the financial/insurance/legal side of dental hygiene. We don't need to bill, and there is no need to market to our clients." "Our role as dental hygienists trained in the armed forces doesn't preclude us from our soldier duties, so our schedule is often varied, adding to the job satisfaction." "We are soldiers first, dental hygienists second." On the down side, "changes in postings and deployment often result in disheartening of patients and lapses in self-care/hygiene progress."

"We also didn't have any interaction with children." Typical clientele consists of persons aged 18-55 in good medical health. They have consistent comprehensive medical and dental coverage so cost is not an issue. As well, the dental hygienist's salary is not based on production: quality of care is the main concern. Dental hygienists also have the option of referring their patients to specialists both within and outside the Canadian Forces clinic.

Anna Aldrich, who has been posted at Cornwallis, Kingston, Goose Bay, and Petawawa, relates that each posting is unique. "The dynamics of each clinic gives unique patient requirements and translates to challenges and experiences that one would not ordinarily receive as a civilian counterpart. Each posting in effect is like to moving to a new practice."

"Unlike civilian counterparts, in a multi-chair clinic, military dental hygienists are employed as supervisors with subordinates. The CF also has a position in Ottawa, with a Senior Dental Hygienist, who communicates with other bases about policy and directive changes within the fabric of the CF. The CF provides opportunities for Temporary Duty (TD) travel as incremental staffing for hygiene support, or to provide lectures at Canadian Forces Dental Services School (CFDSS) or in other settings. Many more administrative duties fall within a CF dental hygienist's job description that are more of a military nature, and can take a "clinician" completely away from the chair.

"The greater variety of tasks within my job description and the chance for advancement to positions of greater responsibility are what attracted me to a career in the CF. Of course, with greater responsibilities, comes less clinical work, so my

productivity compared with my civilian counterparts is considerably lower." "Job security is also a factor. There are established standards for job performance, evaluations and promotion based on merit. Salary is competitive with current market. We work toward a pension, have great health and dental benefits for our families and ourselves. Other benefits include paid vacations, paid sick leave and assistance with continuing education needs/pursuits."

On the down side, a posting with CF is not a traditional 9-to-5 job and can affect family dynamics. Different postings every five to six years can be disruptive as well, not to mention the effect of temporary duty assignments for six months overseas, for example, to Bosnia or Afghanistan. As Sgt. Aldrich states, "You need to see it as part of the adventure of a military career."

The CF is a national organization; therefore, at anytime we technically have 60,000+ clients. There are approximately another 26 military and 27 civilian hygiene colleagues. With this many "colleagues," standardization is important. CF keeps current with materials, instruments and methods, placing a strong emphasis on continuing education. Warrant Officer Breau works with two other hygienists, six dentists and eight assistants at CFB Gagetown.

In the mid 1990s the Canadian Forces underwent downsizing. This created a change in training, as well as positions within the CF. The last dental hygiene course to be completed in Canadian Forces Dental Services School (CFDSS), Kingston, Ontario, graduated on 7 July 1993. Up until that point, CFDSS was an accredited hygiene school. Future hygienists for the Canadian Forces will be hired from the civilian pool of hygienists, since the hygiene training program was cut. CDAs within the ranks can still be selected to attend an accredited hygiene college; their training is paid for by the CF in exchange for obligatory service following completion of their training. Personnel in uniform must be enrolled in the CF and must meet military standards (www.recruiting.forces.gc.ca). Civilian positions are posted on job bank bulletin boards by Manpower.

National Certification has made it easier for hygienists who are posted from province to province. Many hold multiple licenses until they retire in the province of their choice.

Education

Acting as an educator in dental hygiene and dental assisting programs is another alternative for dental hygienists. Educators may find themselves in one of a number of settings, community colleges, private teaching facilities, or universities.

In 1951, the first dental hygiene program was established in Canada, with a graduating class of fewer than 10. There are currently 27 accredited diploma programs that offer dental hygiene. The number of hygienists has grown rapidly over the past years, so that today there are over 14,000 dental hygienists across the country.⁷ There are at present three universities offering a degree or degree-completion program in dental hygiene, the University of Alberta, the University of British Columbia, and the University of Toronto.

As of May 15, 2002, there were 285 dental hygienists employed as educators in dental hygiene programs within Canada. Alexandra Sheppard is a sessional at the University of Alberta teaching in the diploma and degree programs. The Faculty of Dentistry at the University of Toronto currently employs 10 part-time hygienists.

Private dental hygiene schools that have grown in Ontario over the years, including ones in Hamilton and Mississauga. Hygienists also instruct study groups and continuums, or establish specialized institutes. Kristine Hodsdon is one of a group of 10 hygienist-coaches who make up Hygiene Mastery (www.hygienemastery.com). Each of the group is passionate about dental hygiene and continues to work part-time in a clinical setting, testing new products, techniques, and procedures to ensure their clients benefit from the latest research and advancements in periodontal care. Each coach is steeped in dental business training as well. Their daily tasks include three-day personalized, in-office, hands-on training sessions; ongoing telephone coaching; and comprehensive, written evaluations of service mix, fees, productivity, scheduling, and room utilization. They work with the practice's entire team to develop patient educational materials and letters, and provide extensive follow-up.

Other avenues in this field include adult or continuing education. Such instructors may be independent or affiliated with educational or corporate institutions. Dentsply/Caulk have four clinical educators in Canada. Dani Botbyl is an Ontario dental hygienist, and one of Dentsply's clinical edu-

Thinking of a career in research?

1. A formal education. The minimum of a bachelor's degree in dental hygiene with a research concentration, or a BSc in a specific relevant area is required. Graduate level study is preferred, such as a masters of science in dental hygiene or a related discipline.
2. Attending courses on research topics can be very helpful. These courses could include research design and methodology, research critique, statistical methods/tests or Food and Drug Administration regulations regarding proper implementation and conduct of clinical trials.
3. Consider volunteering in a hospital or dental school research setting until a position becomes available.
4. Become a member of your professional organization so you can keep abreast of the issues facing our profession, hear about opportunities, and collaborate with your colleagues.
5. Keep current. Read dental journals and magazines to educate yourself about new products and methodologies.
6. Network with your dental hygiene colleagues. Start a study group. Consult people who currently work in an area you may be interested in.
7. Be assertive and ask questions.
8. Organizational and interpersonal skills are a must. A positive attitude and being able to work on different projects at the same time and meet deadlines are extremely important.

Table 2. Thinking of a career in research?¹⁰

cators. She is kept busy “developing, maintaining and delivering a curriculum of state of the science continuing education courses to dentists, hygienists, and assistants, both practicing and students.”

Susan Isaac has worn many hats since graduating in dental hygiene in 1974 from University of Toronto. She went on to earn her BScDH (1979) and her MEd (1985) from the University of Windsor. She spent 16 years teaching dental hygiene, some of those at George Brown and St. Clair College in Ontario, as well as Camosun College in British Columbia. She also instructed the Expanded Duties Restorative module at the University of Toronto. Ms. Isaac moved to a more corporate setting at Warner-Lambert, and then to her current position with Philips Oral Health Care, but she didn't give up teaching. She now authors and delivers dental hygiene courses in the United States, Germany, England, and Canada under an educational grant from Philips Oral Health Care as part of its professional education program.

Research

As researchers, dental hygienists contribute to advancing the knowledge base in care by investigating both basic and applied research problems. They may write grant proposals, develop research methodology, collect and analyze data, conduct clinical research, conduct research surveys, and/or write articles and scientific papers for professional publications.

Christine Hovliaras worked as a clinical research scientist for at Warner-Lambert, manufacturers of Listerine. Responsibilities ranged from “writing study protocols and research reports to monitoring clinical test sites. In addition she handled consumer, sales force and professional inquiries on Warner-Lambert's oral health care product line. Christine assisted associations with professional programs and interacted with marketing groups and advertising agencies.”⁹ If a career in research appeals to you, Christine provides some guidance in Table 2.

Hygienists involved in research frequently publish in *Probe* (Scientific Issues), and other peer-reviewed journals, to disseminate their findings to their colleagues. Recent authors include Sandra Cobban,¹¹ Joanne Clovis,¹¹ and Alnar Altani,¹² to name a few.

Other hygienists, myself included, perform reviews and evaluate products. Clinical Research Associates have a dental hygiene panel with a representative from every state as well as two Canadian representatives to evaluate and assess newly developed products.

Other researchers work in conjunction with university-related degree programs and research projects, securing their funding through government grants and corporate sponsorship. Others are independently contracted by dental/dental hygiene bodies to perform research and literature reviews in an attempt to establish policies and protocols. Corporations may sponsor independent research in an attempt to add validity to their product/procedure. Others get into research simply out of a passion to know and discover and to move the profession forward.

Sales

Another frequently considered alternative to clinical dental hygiene practice is that of sales.

There are three requirements for successful selling: a sincere desire to satisfy other people's needs, a willingness to “expend a lot of shoe leather,” and tenacity. Previous sales experience counts, be it as a clerk in a store during high school or selling dental hygiene services or cosmetic dentistry. Customer service is key to building relationships. You need a thick skin; for every sale you make, there are just as likely to be 15 or 20 rejections.

Corporate product promotion/sales representatives are a combination of educator, troubleshooter, and resource person. They sell primarily to dental supply houses and schools with dental/hygiene programs, and may often travel with a retail sales representative, especially when introducing a new product. Districts or sales areas tend to be large and overnight travel is often required.

Dental supply companies represent a number of companies—these are the sales representatives you find frequenting your office on a regular basis—and sell directly to the end users, dentists and hygienists. Salaries are generally low; the money is made on a commission and bonus basis. Generally there are benefits including car/travel benefits.

Thinking of a career in sales?

1. Understand that sales is consulting and not sample-dropping. Sample-droppers are not true sales consultants. Most sales consultants who know and believe in their products usually are successful because their customers believe in them and will buy from them based upon their knowledge, trust, and relationship, not from samples left behind.
2. Believe in and use the company's products that you're interested in pursuing. This will give you credibility when you consult with other dental professionals. Think about it; would you give your patient something that you haven't used yourself?
3. Ask yourself: As a hygienist, do I sell to my patients (restorative procedures, crown and bridge work, aesthetics, hygiene products, etc)? If so, you are probably a good candidate for sales. If not, try selling to your patients. That's what you would be doing for a living as a sales consultant.
4. Are you self-motivated? Can you discipline yourself to wake up every morning without a specific time to be somewhere? Sales involve true self-motivation and discipline. If you don't possess these traits, you are doomed for failure in sales.
5. Be able to handle resistance and rejection. Don't take rejection personally. Most resistance is due to a misconception about a product or service. You'll eventually learn how to handle these situations, so don't think it has anything to do with you. You are not selling yourself; you are selling the products that you represent. Everyone will not jump on your bandwagon 100 per cent of the time. Over time, you will build relationships and trust with your customers, and that will help you sell your products.

Table 3. Thinking of a career in sales?¹³

Tammie Tom currently holds a position as director of marketing in Discus Dental's Oral Hygiene Division where she manages and creates promotions for the sales department. Having started out in clinical hygiene, she eventually secured a sales position by a company that was later purchased by Colgate-Palmolive. Over the next five or so years, she moved from sales to training an international sales force, located in Hong Kong and Bombay, India. From there, she moved to management of nine sales representatives covering five states. Ready for a change, she moved into a position as marketing manager for Colgate Oral Pharmaceuticals, a position requiring less travel than her previous one. Product management consumed much more than a typical 9-to-5 day. It was a position that allowed her to develop new products and programs to benefit dental professionals, specifically hygienists. It was a task she took on for the next 10 years, leading to her position as branch manager for Discus.

The trade show industry is another branch of sales/marketing. Many dental-related companies, recognizing dental hygienists as authorities on oral care, employ local hygienists to distribute their goods and inform their colleagues about their products at trade shows. Prior to the show, hygienists receive specific training and information on the product they will be promoting as well as training on how to "work the booth." This can be a very appealing position for those with an outgoing personality, who are able to disengage with one client and move on to the next once the message has been delivered.

On a full-time basis, this type of position can be wearing. Selecting the best show, the best floor position, juggling calendar events, and dealing with local dealers and representatives involves good planning and organizational skills. Lots of travel and working alone can be stressful. You're never sure if everything will arrive in time for the show, what the turnout or response will be. Follow-ups are time consuming but crucial to the success of a show. It can be a large burden to carry on a regular basis.

For hygienists who are thinking of jumping ship and heading for the corporate world, "it is so much more than looking nice and handing out samples. You have to go into an office believing in your products, believing that you can consult and sell your products, and believing that you ultimately will help both the dental professional and the patient." "Clinical hygiene is a very lucrative career – one in which you can choose your employer, your hours, and the locations you prefer to work. It definitely is not the same in a corporate environment. But if you are interested in constant challenges and in developing professional relationships, and are self-motivated, disciplined, organized, and have a desire to climb the corporate ladder, then corporate sales may be your ticket out of those scrubs."¹³

Judith Cheney couldn't agree more. She joined Implant Innovations Canada/3i Canada after five years in "a dead-ended private position." Here she found the challenge and growth potential she was looking for. Judith works with four other hygienists in the organization. She enjoys the business aspect, travel and the day-to-day change.

Beth Ryerse, Pro-Dentec Canada, started presenting Pro-Dentec's Soft Tissue Management Seminars in 1996, and now presents in both Canada and the United States. She still practices clinically a few days a month but appreciates the opportunities offered by her corporate position. She appreciates the "ripple effect" the information she is disseminating will have both for clinicians and patients. "At first the skills involved in becoming a professional speaker were daunting. Now (she finds) the biggest challenge is staying current with the practice of dental hygiene. Also, traveling is sometimes much less glamorous than it might seem." Pro-Dentec employs five other hygienists who work as clinical representatives for the company (not course presenters).

Publishing

The publication you are now holding is a small sampling of your colleagues' professional writing. Canadian dental hygienists have been published in national and international medical, dental, and dental hygiene journals, news-magazines, and trade journals. Others have authored textbooks (e.g., Wilkins, Darby and Walsh), contributed chapters to texts, or assisted in editing the finished results.

Consumer publications and children's books are another avenue for the creative dental hygienist interested in both increasing the profile of dentistry/dental hygiene and educating the public.

Gail Gilman writes both professional and consumer articles related to oral health care. She contributes regularly to *RDH* magazine and writes children's dental hygiene books for Bossy Flossy & Co. Katie Newell consulted a number of dental professionals when putting together *Two Minute Tooth Tales*, a collection of stories and poems for children. This is one of the many projects for The Smilestones (www.thesmilestones.com). The Smilestones also produce recall cards, dental comics, dental colouring sheets and stickers for dental practices. A TV series featuring the tooth characters of Smilestone Island is currently being piloted.

Jan Pimlott was recently published in *Family Health* (Vol. 18[2], Summer 2002), making consumers more aware of "The Oral Health Connection – What your mouth can tell you." In the same publication, Janet Lockau had a piece entitled "A healthy diet for a healthy smile."

Desktop publishing provides an endless avenue for creative dental hygienists, giving them the ability to create newsletters, brochures, and handouts for dental offices. Melinda M. Ferguson Inc. publishes office welcome brochures, patient newsletters, and handouts as well as customized office letters, personnel policy and procedure manuals. As the principal of the company, I am also the editor of the *PHD Services* newsletter and publisher of *Dental Auxiliary Magazine (DAM!)*, both of which are accompanied by a continuing education component. Other companies like Dental Learning Systems and Procter & Gamble also employ dental hygienists to write continuing education programs that participants can take by correspondence or on the Internet. With mandatory continuing education, this type of institution has proliferated in recent years.

Dental insurance

One less obvious avenue for the dental hygienist who wants to move out of private practice is the dental insurance industry. Jeannie Haslet is a dental hygienist in the insurance business. This industry is composed primarily of the claims division, which spends money by mailing cheques to dentists for work they have performed on patients; the marketing division, which brings in money by selling dental coverage to employer groups; and administration, which oversees and controls the marketing and claims division.

Public relations, sales and marketing are the true people-oriented departments (positions in the claims department are typically data entry, with little people interaction). Representatives are responsible for selling dental coverage to companies and/or individuals. Generally 60 to 80 per cent of their salary is fixed; the rest is commission. The public relations department promotes the image of the company in the community and beyond. They might write the booklets and brochures used to explain coverage to new enrollees, handle promotions and advertising, hold press conferences.

Anyone serious about working in the insurance industry generally needs to start at the bottom and "learn" the way up. In most positions, an excellent benefit package should be expected. Work hours are more or less standard, but a 40-hour work week can be an adjustment if that is not one's current schedule. Be prepared for a political atmosphere.

Administration

There is often very little vertical movement within the dental practice for a dental hygienist. In larger practices, however, some dental hygienists find themselves moving into the position of private practice office manager, or coordinator for hygiene/soft-tissue management programs.

As an office manager, the dental hygienist develops office protocols, monitors practice productivity and financial affairs, and coordinates human and material resources. Public Health Administration is another commonly pursued administrative position. Here dental hygienists evaluate and initiate community dental health programs and resources.

The recent influx of HMOs (health maintenance organizations) into the dental "insurance" business has added a new avenue for dental hygienists. There are more positions available and HMOs are also more likely to contract with specific offices/clinics to create affordable (at least in their eyes) options for their clients, which may include lower-overhead, hygienist-run practices. Many also feel that having dental professionals involved in the marketing/operating of their company adds validity to the services they offer.

Other hygienists are employed in dental hygiene colleges, in association administration, or as administrators of dental hygiene or assisting programs. Sheryl Feller (University of Manitoba 1970) followed up seven years as a faculty member at the University of Manitoba, School of Dental Hygiene, with a year as a consultant to the Dean of the Faculty of Dentistry. She then served as Acting Director of the School of Dental Hygiene for two years before returning to graduate school.

Other avenues

Other dental hygienists branch out from the traditional and obvious hygiene roles into avenues of their own making.

CONSULTING. Sheryl Feller followed up her hygiene training with a Bachelor of Arts and a Masters of Business Administration. She is a Fellow Certified Management Consultant and offers consulting, education, and facilitation services through her firm, Bluebear Enterprises Inc. Training, facilitation, and coaching are the primary services of Sheryl's practice.

INVENTION. Feeling creative? Did you know it was a hygienist who invented the little foam cushions, Edge Ease®, that many dental offices use to protect patients' soft tissue from the sharp corners of the x-ray film? Vonda Strong developed the product in response to what she saw as a patient demand. But she cautions that "the work doesn't end with just the invention. In today's world you need someone to design it, patent it, make it, label it, package it, load it, ship it, store it, and deliver it." Still working in private practice five days a week, Vonda became an insomniac as she attempted to bring the product to market. The break came in 1985 when *Dental Products Report* printed her press release; the orders started rolling in. How often have you said, "Why doesn't someone invent...?" It can be done.

COMPUTER SOFTWARE, WEB DESIGN. Christine Wyatt expanded into web page design, among other things, after developing a latex allergy that precluded further adventures in clinical practice. As part of TOC Media Internet Development management team, she facilitates the design of web pages for both dentists and other businesses—from covering marketing presentations to uploading the finished pages—and maintains the sites.

Kristine Hodsdon has been changing the landscape of dental hygiene for the past 15 years, as a practising clinical hygienist, sales representative, author, and national speaker. She is also the developer of Pre-D Systems™, a pre-diagnostic computerized team software package for comprehensive restorative and esthetic care.

DENTAL LABORATORY WORK. Joy Bowie moved from dental assisting to hygiene, and then to the dental lab with husband Bryan Bowie. She emphasizes the importance of communication in the fabrication of every restoration. A restoration may look good, but if the client/patient is unable to clean the restoration appropriately and easily, it will ultimately fail. Who better to advise and to provide liaison than a dental hygienist?¹⁴

STAFF PLACEMENT. Another non-traditional avenue for dental hygienists is that of staff placement. Andrea Abbott (John Abbott College, 1991) has taken on this task on a global scale. Ms. Abbott has dedicated her hygiene career to the promotion and facilitation of both local and international career opportunities for dental hygienists. She established Global Hygienist Community in 2001 after working in clinical practice first in Calgary, and then in Switzerland. Her goal was to incorporate her love of travelling and exploring with her dental hygiene skills. She started out by finding placements for other hygienists interested in working in Switzerland and now includes placement opportunities in

Germany, New Zealand, and Bermuda, and is affiliated with other agencies worldwide.

VETERINARY DENTAL HYGIENE may appeal to the animal lovers in the profession. Animal care workers have long been using discarded ultrasonics to clean pets' teeth. In more recent years, veterinarians have been turning to dental professionals to perform these duties. Franci Louann attended a weekend program in veterinary dentistry in Vancouver, and Karen MacDonald is currently treating pets in British Columbia. With sedated pets, differing tooth numbers and shapes, there is lots left to learn for even a veteran hygienist. This is another exciting career alternative.

LAW AND DENTAL HYGIENE. Other hygienists have furthered their education in law, which might initially appear as a completely different avenue. For many, however, there remains a dental connection and the numbers are surprising. Joyce Weinman's law practice in Toronto (www.jwdental.com) includes health law, personal injury, and professional negligence. She frequently represents professionals in disciplinary related procedures before colleges governed by the Regulated Health Professions Act. She has vast experience representing patients in dental malpractice cases and employees and employers in employment law disputes. Her time studying at the University of Toronto, School of Dental Hygiene has certainly not gone to waste. She also hosts a number of regular columns in a number of publications discussing dental-related law and reviewing past cases. Other hygienist/lawyers include Susan Burak, Chris Sweet, Nancy Harwood, and Burglind Blei-Gregg.

Burglind Blei-Gregg practices law on a full-time basis in Halifax and teaches health law/jurisprudence courses to senior dental hygiene students at Dalhousie Dental School. She has also sat two terms as the dental hygiene representative on the Nova Scotia provincial dental board.

GOVERNMENT REGULATION. With increasing regulation and government intervention, there are likely to be upcoming positions in areas such as regulation monitoring and enforcement, related to Infection Control (WHMIS/OSHA), Radiation Monitoring Programs, Waste Management Programs (amalgam disposal), and Mystery Patient office evaluation.

CONSUMER ADVOCACY. Hygienists have long been consumer advocates¹⁵ who help consumers obtain access to care, develop networking systems to match existing resources with health care needs, advise consumers on insurance policies, commercial products and political issues affecting oral health care.

CHANGE AGENTS. As change agents, dental hygienists work to influence business and government agencies to support health care efforts, advocate oral health programs for individuals, families or communities, act as a lobbyist, law consultants, expert witnesses.

Many hygienists work to further their profession and professional organizations. Evie Jesin has worked as a change agent for the past nine years, sitting on the Council of the College of Dental Hygienists of Ontario, the regulatory body for dental hygiene in Ontario. Charlene Hamill sits as a repre-

sentative for the Federation of Dental Hygiene Regulatory Authorities (2000–2003); Susanne Sunell is the CDHA representative for Dental Hygiene Educators of Canada (2001–2004); Nancy Hughes is the current Manitoba Dental Hygiene Association representative to CDHA (2001–2004). The list could go on and on.

Sheryl Feller, long-standing member of CDHA and the Manitoba Dental Hygiene Association, has sat as chair of the long-range financial planning committee of CDHA, was an advisor to the public relations council, and a consultant to the executive council of the Board of Directors of CDHA. She was editor of the Manitoba Dental Hygiene Association Newsletter for two years and was also past president of the Manitoba Society for Preventive Dentistry. And this is just a listing of her dental-hygiene-related volunteer activities. It appears that, if you need something done, you need a busy person to do it!

VOLUNTEERING. Volunteer positions have long held appeal to well-meaning dental hygienists, many of whom want to "serve goals larger than self." Several organizations and web sites are devoted to the dental needs of their fellow human beings. The questions to consider are: What do you love more—your pay cheque or your profession? And more importantly, can you go without a pay cheque for a short while without dire consequences? Linda Belaus, RDH, runs an all-inclusive information directory of volunteer services at www.dentaljobs.net. There are opportunities for those who have just a day a month to give, some local, many abroad. For the more adventurous, there are opportunities in Bolivia, Cambodia, Costa Rica, Nepal, Kosovo, Israel, and Costa Rica. One thing is certain: people need dental treatment no matter where they live, whether they can afford it or not. Interested? Also check out www.flyingdocs.org, www.dentaljobs.ca, www.mercyships.org, and www.globalhygienist.ca. The January/February 2001 issue of *Probe* featured an article by Kelly Mabey outlining her dental experiences in West Africa.¹⁶

Margaret Kolthammer has volunteered around the globe. She says her contract relief work at home in British Columbia "allows her to maintain lifestyle, support others around the world, and seek service opportunities."¹⁷ "Kolthammer has met the challenges of hurricanes, political unrest, and uncertainty in her quest to serve. In 1995, she went to Haiti as the U.N. peacekeepers replaced the American troops. For two weeks, she worked tirelessly, spending time in the dental clinic and on a missionary's back porch treating patients with an aversion to dental clinics. While there, she was also involved in a small building project. In 1999, she helped build church congregations with Church Partnership Evangelism in India. For six months in 2000, she acted as pharmacist, clinic assistant, secretary, and transporter of people and supplies for the Pacific Academy Outreach Society at the Kibaale Children's Centre in Uganda."¹⁸

"Then in November 2001, Kolthammer went to Jerusalem and worked with the Dental Volunteers for Israel (DVI) (www.dental-dvi.co-il) at a clinic set up by Trudi Birger, a Holocaust survivor. This establishment was created to provide free dental care to poor children of any faith, ages five to

18 who are referred by the city's Social Service Department. Kolthammer volunteered for three weeks and had another three weeks to tour Israel. But with an 80 percent drop in tourism, she did most of her sightseeing alone. While many dentists cancelled their trips to Israel because of the current unrest, the tensions did not deter Kolthammer. She paid her own airfare (tax-deductible in the United States and Canada) and stayed at an apartment provided by DVI. Working at the clinic four days a week. Despite the suicide bombings and grieving, life continues at Dental Volunteers for Israel. The children were still treated and educated on brushing 'three times a day, like a good Jew prays'.¹⁹

Local dental hygiene associations and components are getting into action, organizing free screenings, providing sealant clinics, and much needed care in underserved areas. Others are hosting information forums/displays in community centres and shopping malls on oral health, smoking cessation, speaking to expectant mothers, and school groups.

You can serve your community/profession in a non-clinical way by participating in your organization, or other health-related organizations, and standing up and educating health practitioners on the importance of oral health care.

A pay cheque does not guarantee job satisfaction. Volunteering provides a change, a chance to be desperately needed and appreciated, be it short- or long-term, local or overseas.

Conclusion

As dental hygienists, we have a multitude of ways in which we can increase access to oral health care and improve quality

of life. Private practice is not the only avenue; your opportunities are only limited by your imagination and ambition.

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UNIVERSITY
OF MANITOBA

ASSISTANT PROFESSOR SCHOOL OF DENTAL HYGIENE UNIVERSITY OF MANITOBA

The School of Dental Hygiene is located in the Faculty of Dentistry at the University of Manitoba and is a part of a dynamic health sciences campus. This university provides opportunities for collaboration with other health disciplines in the attainment of excellence in teaching, research, service and outreach activities. This is a full time, tenure-track position at the rank of Assistant Professor effective July 15, 2003.

Responsibilities include both theoretical and clinical teaching at the undergraduate level in addition to coordination of all scheduling and monitoring of first year pre-clinical, clinical and externship activities. The successful candidate will work closely with full and part-time clinical faculty, staff and administrators, in a team-oriented environment. Participation in research and scholarly activity is an expectation of all tenure track faculty at the School of Dental Hygiene.

A minimum of a Master's Degree in Dental Hygiene or a related discipline is required. Clinical practice and teaching experience is preferred. A record of research and/or scholarly activity would be a definite asset. Salary will be commensurate with education and experience, and is subject to final budget approval.

The University of Manitoba encourages applications from qualified women and men, including members of visible minorities, Aboriginal peoples, and persons with disabilities. All qualified candidates are encouraged to apply; however Canadians and permanent residents will be given priority.

Applicants should forward their curriculum vitae and arrange for three (3) letters of reference to be forwarded to:

Salme E. Lavigne, Director and Chair of Search Committee
School of Dental Hygiene, Faculty of Dentistry, University of Manitoba
D35 - 780 Bannatyne Avenue
Winnipeg, Manitoba, Canada R3E 0W2
e-mail: Salme_Lavigne@umanitoba.ca Telephone: (204) 789-3665 Fax: (204) 789-3948

The deadline for applications is October 31, 2002.



Pat Spencer receiving a Human Resources Development Canada award for being self-employed for five years (May 29, 2002) from Charlie Gibb of the Norfolk District Business Development Corporation that administers the HRDC program.

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Entrepreneurship

by Pat Spencer, RDH, BA

The first evidence of his visit was the smell as he was brought up the hallway into the waiting area of the dental office. As I looked for my next scheduled client, I noticed the restless discomfort of the caregiver, the expressions of distaste of those waiting for their appointments and the gentleman in the wheelchair drooling and hanging his head refusing to make eye contact. After wheeling him into my operatory and performing a quick assessment, I spoke to the young caregiver asking her what was the most important expectation from this dental visit. Surprised at the question, her instant plea: "Just get rid of that smell." I explained that the developmentally challenged man was suffering from severe oral neglect resulting in an infection in the gums. His medical history indicated that he had recently moved to a group home. I stressed the importance of our being a team working together to deal with the challenges. I would provide therapy at this appointment and show her how to provide daily care. I promised that by working together the smell would go away. She could call me at any time with any questions.

The next visit, three months later, the smell was gone, the gentleman had his head up smiling with minimal drool and the caregiver was delighted to be congratulated for her conscientious efforts. As this compassionate dental office team worked with each of the residents in that organization, I watched the changes as the caregiving staff developed pride and pleasure in their work. I suggested diet modifications as needed for oral health, reinforced and motivated the caregivers' roles and procedures and saw the residents each develop confidence and social skills.

After about a year, I phoned the supervisor to follow up on the care of a resident. She advised me that the rate of staff turnover had plummeted and she attributed that largely to the care and support that was provided in our dental office since little else had changed in the work setting. Caregivers were staying instead of leaving after a couple of months. One of the first caregivers that I met was so impressed with the impact of preventive oral care on the residents' quality of life that she became a dental hygienist. I became increasingly passionate about the right and importance of access to preventive oral care for every member of the public.

After my husband's job transfer to our present location, I was providing care to a client who expressed the wish that her husband in a chronic care ward suffering from dementia could receive similar dental hygiene care. He was receiving very limited oral care in the facility. She had fallen in love with his smile and beautiful teeth years ago and a cleaning was the one thing that she hoped that she could still do for him as his dementia worsened. The cost estimated according to the provincial dental fee guide for both the dentist and myself to attend the facility was beyond her budget. He was too ill to come to the office and passed away, never receiving the needed dental hygiene care.

Using the experience of the developmentally challenged, I wondered how many residents were being denied service. What was the impact on the quality of life for these residents, the interest of the caregivers and the facilities' ability to meet the standard of oral care mandated by the provincial Ministry of Health and Long-Term Care? I believed that I could provide the full range of dental hygiene care more economically, effectively and on-site.

On December 31, 1993, with the implementation of the Ontario Regulated Health Professions Act and the Dental Hygiene Act, It was legally possible for me to set up my own practice. I was ready to explore the possibility of being an entrepreneur. While there were many challenges, I believed that based on the principles of justice, a resident's right to a quality of life and my right to practice, I could make a difference.

At present I provide dental hygiene care in seven facilities and a number of private homes. Those receiving care are so grateful for the services that I provide that I have not had a delinquent account. My fees are modest because most facilities and most residents are very limited in resources. Where I have provided care, caregivers' interest in the level of oral care is increasing significantly. I operate out of my home, make a profit but need more clients to be fully self-sustaining. The current requirement in Ontario for an "order" from a dentist before I can provide scaling restricts my services as many residents do not have a dentist and cannot tolerate or afford going to a dental office.

While traditional dental offices appear to value dental hygienists primarily for the scaling services that they provide to generate income for the practice, I was and still am convinced that the major role for the dental hygienist is the education and motivation of individuals, families, and caregivers.

In the information-based economy under our health care system, well-educated dental hygienists have a lot to offer. As the understanding of the role of oral disease and its impact on systemic health expands, the importance of dental hygiene care will increase

What is the dental hygiene model of community care?

Model of integrated oral health care¹

The RDH as Coordinator in an interdisciplinary approach to serving the oral health needs of community residents

The RDH as part of the interdisciplinary care team:

- provides ongoing staff training
- problem solves oral hygiene issues with staff
- provides/coordinates ultrasonic cleaning and denture marking service
- recommends/advises regarding oral hygiene products

The RDH as liaison and professional care provider:

- liaises with physician, dentist, denturist and others as needed and coordinates follow-up
- advocates for the client
- provides treatment within full scope of practice including scaling and other preventive therapy, denture cleaning, etc.

The RDH caring for client and family support persons:

- screens and assesses client
- develops individual oral hygiene care plan in consultation with agency staff/others
- monitors oral states, diet, swallowing difficulties

- consults with/educates client and family regarding oral health needs

My hope is that in each community:

- every long-term care facility will place a priority on oral care and will have a dental hygienist on staff to provide dental hygiene services;
- every dental office will commit to supporting their "challenged" clients through the use of an outreach dental hygienist;
- every Minister of Health will recognize the importance of oral health to total health and enact appropriate legislation so that dental hygienists may freely provide services to their full scope of practice;
- all members of the public will have options in service, cost, and regulated provider of oral care.

Why an entrepreneur?

I had been "stricken with an Entrepreneurial Seizure. The idea of being your own boss, doing your own thing, seemed irresistible."² I knew dental hygiene, had some business experience, saw the public need and an opportunity. In addition, I was eligible for employment insurance and, therefore, could approach the federal self-employment assistance program. First I had to develop a sound business plan. Everything hinged on that plan.

What is a true entrepreneur?

Michael Gerber has spent decades advising small businesses how to succeed. In his book, *The E-myth Revisited*, he states that "the problem is that everybody who goes into business is actually three-people-in-one: The Entrepreneur, The Manager and The Technician."³ In order to succeed, each of these roles will have a part to play. Using Gerber's terms, the dental hygiene Entrepreneur dreams of the possibilities in a business directly serving the public. The pragmatic Manager tries to figure out the dollars and materials to make it work. The Technician is the one who actually does the work of the business. Totally different skills and knowledge are required for each role. It is important to be prepared for each. "The fatal assumption is: *if you understand the technical work of a business, you understand a business that does that technical work. This assumption is the root cause of most small business failures!*"⁴

What do I need to be an entrepreneur?

The "E" Personality

"People who start their own businesses usually feel and express themselves more strongly, have a strong 'Need for Achievement,' don't see the risks, only factors that can be controlled to their advantage."⁵ Try the Entrepreneur Test at <www.bizmove.com/other/quiz.htm>.

Business plan

A business plan is very individual and acts like a road map that shows you the direction of success. It gives you a vision of where you want to be, a year from now, three years and longer. You will need to answer some tough questions in order to complete the plan. Over the years, your life, and your business will change and so will your answers. My plan has changed dramatically after six years in business.

Preparation

I contacted:

- long-term care facilities to determine level of interest in oral care services
- local dental societies to offer an outreach service for those dental patients who could no longer physically attend the dental office
- local, county and provincial public health Dental Coordinators to explore ways to deal with the legislated need for an "order" from a member of the Royal College of Dental Surgeons of Ontario for scaling services
- the College of Dental Hygienists of Ontario to make sure that I was complying with provincial regulations; this is an ongoing contact and Fran Richardson, Registrar, has been most patient and supportive in dealing with my queries
- the local college to apply for the Working with the Aged certificate program to better understand the client base.
- the local Chamber of Commerce to do a name search online and register my business as Mobile Oral Health Services with the provincial ministry
- the local college to obtain an accounting course that set up the books for my business.

There were continual challenges. Little or no interest from dentists in outreach, limited interest from facilities due to limited finances and barriers to providing care caused by the

need for an "order" from a dentist for those clients who had no dentist of record but wanted dental hygiene care.

Gradually my services were solicited by families who could no longer transport their loved ones or by facilities which wanted to meet the mandated standard of oral care.

Customers

Any client who requested dental hygiene care first received a screening assessment (see Attachment A). With a completed medical history, the family approached their dentist to obtain an "order" for scaling if required.

I have noted an increasing number of dentate clients who faithfully attended a dental office for years, some with thousands of dollars in crown and bridgework, but when their health failed, the dental office ignored them and then the breakdown in oral health was rapid.

Who are support consultants?

The local Norfolk District Business Development Corporation (NDBDC) provided ongoing immeasurable support over the course of the self-employment assistance period and, at present, I continue as a member of the NDBDC Small Business Club. This club provides monthly seminars on various aspects of running a business. I must acknowledge the assistance of different members of the Ontario Dental Hygienists Association and the Canadian Dental Hygienists Association, especially the late Barbara Heisterman (Crosson).⁶

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Attachment A. Screening assessment

Pat Spencer, a registered dental hygienist with Mobile Oral Health Services, will offer dental hygiene care on a "fee for service" basis.

What are the benefits?

- screening for oral disease
- reduce future pain and expense
- avoid denture loss and major denture repairs and replacement
- improve chewing, speech, appearance and reduce halitosis
- improved oral health and increased self-esteem

Referrals will be made to dentists and denturists as necessary.

Services Requested: Fee guide for 2002

- ☐ Oral health assessment \$40
- ☐ Individual oral hygiene program
- ☐ Scaling (cleaning) per half hour \$45
- ☐ Fluoride application \$10
- ☐ Inservice training for caregivers \$75
- ☐ Nutritional counselling
- ☐ Denture cleaning and labelling \$10
- ☐ Consultation services
- ☐ Parking fee, if applicable

To participate, fill out the following information below and return to Pat Spencer.

Please print clearly

I would like to participate in the Dental Hygiene Program ☐ Yes ☐ No

Name of client _____ Facility _____

Name and telephone of client's treating dentist if applicable _____

I understand that I am responsible for the fees quoted. I authorize referrals to dentist or denturist as required.

Signed _____ Client or _____

I confirm that I have authority to enter into financial and treatment commitments on behalf of the client.

Signed _____ Date _____

Address _____ Phone # _____

How much will it cost?

I started very modestly with a large fishing tackle box and a storage box that was secure and could be transported easily into homes. I was able to purchase a used One-Write system and sterilizer. I modified a screening assessment form that is in use by health units, leave photocopies of the completed assessment in the resident's health record, and mail a copy to the decision maker. A dentist kindly allowed me to use the office sterilizer until I could afford one. I use disposable items wherever possible and routinely use vinyl gloves to avoid the possibility of latex sensitivity. Dental supply companies are very good about shipping supplies "just in time" so my inventory is limited. Large table napkins work well for bibs. A small calendar serves as my appointment book. I use black pen only for ease of photocopying and faxing later.

As a guideline, I have listed prices seen recently in catalogues and asterisked the essentials for starting your own business (see Table 1 below). And always assume that you will need more money than is estimated.

Financing

I bought my equipment gradually over a period of a few years while working in clinical practices. I routinely use my credit card for every possible expense. My bank offered me a \$15,000 line of credit.

Capital financing is available from many sources including banks and companies such as NLG Medical Leasing. Account manager, George Mitchell,⁷ advises that to obtain a lease for \$20,000 of equipment, for example, a dental hygienist will require the following:

- Must be currently registered as a dental hygienist
- Own a registered dental hygiene business for 3 years

- Provide complete credit information

A 5-1/2 year term for \$20,000 will cost \$420.80 per month and at the 60th month, the equipment may be purchased at 10 per cent of the original value.

Advertising

I have spent over \$2,000 on radio advertising and nearly the same for paper advertising in addition to writing a monthly article for two local newspapers. Neither generated customers but a number of inquiries from other interested dental hygienists. Word of mouth is the best source of referrals.

What are my fees?

After researching costs and options in care, I aimed to generate between approximately \$90–120 per hour in fees. Scaling is \$45 per half hour and each assessment is \$40 and takes about 20 minutes. Consultation and in-service education are similarly priced.

What are the pitfalls of operating a business?

Lack of planning for self-care (the biggest pitfall)

In the beginning nothing is too much for your business to ask. So you work—ten, twelve, fourteen hours a day. Seven days a week. Even when you're at home, you're at work. All your thoughts, all your feelings revolve around your new business.⁸ I was working 6 days a week partly in a clinical practice and partly serving long-term care. Every day was scheduled. My daughter who was planning to be married lived 2-1/2 hours away and found the perfect wedding dress. She wanted me to see it but I couldn't get away. This was my wake-up call. I had lost control of my life to the business. Self-care is essential.

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CAPITAL ITEMS	ESTIMATED COST
** Items such as ultrasonic cleaner, Piezon EMS tip kit, sterilizer, accounting system, instruments, halogen light, cases, fax machine	* \$10,000
Optional items, e.g., curing light, Safari system	\$10,000
** Automobile	* \$10,000
** Security system for health records	* \$350
OVERHEAD ITEMS	
** Clinical supplies such as bibs, gauze, gloves, toothbrush, periorinse, masks, sterilization pouches, denture cleaner, disinfectant wipes, antibacterial soap, barrier film, sealant, saliva ejectors, plastic bags to clean dentures, flashlight, spore test, steam sterilizer integrator, fluoride fluoride trays, rubber cups, polish, ultrasonic cleaner solution	* \$3,000
Optional items, e.g., evacuation system, cleaner, sealant	\$320
** Office supplies, e.g., charts, appointment book, rubber stamp, pens, photocopies, paper, postage, bills/receipt, CDHA/ODH membership for malpractice insurance, CDHO registration, business insurance CDHA, answering machine/pager/cell phone	* \$5,060
Optional items, e.g., answering service/pager/cell phone	\$2,000
Assistant - @ \$15/hour and Canada Pension Plan, etc.	?

Table 1. Mobile practice expenses (for 1000 clients)

Are You Adequately Covered?

Have you considered how you would protect yourself and your family if you died or were struck with a major illness or disability?

We all need the security of a benefits program whether to provide protection for our loved ones, to protect ourselves in case of an unexpected critical illness, to cover the cost of medical expenses or to replace lost income while disabled. As a member of the Canadian Dental Hygienists Association (CDHA), you can take advantage of a comprehensive and competitively priced benefits program.

CDHA sponsors a benefits insurance program for you and your dependents that provides you with the right combination of coverage to suit your needs and lifestyle. By combining the buying power of over 10,000 dental hygienists, this program combines the price advantage of reduced group rates with the flexibility of individual coverage. The program, provided by Sun Life Assurance Company of Canada, offers the following coverage:

- Life Insurance – benefit amounts of up to \$500,000
- Accidental Death & Dismemberment Insurance – family coverage available
- Long Term Disability Insurance – coverage for HIV and Hepatitis B/C infection; a choice of benefit riders and elimination periods
- Critical Illness Insurance – benefit amounts of up to \$300,000; coverage for 18 conditions including Occupational HIV Infections
- Extended Health Insurance – you can access your benefit/claims information online

Many of you might say that you don't need insurance because you're covered under your spouse's plan at work.

One important factor to keep in mind is that you wouldn't be able to get Long Term Disability coverage under your spouse's plan. And, did you know that if you or any of your dependents have medical coverage under your CDHA plan as well as your spouse's plan, both plans can work together to provide a higher level of expense reimbursement than either plan can provide alone? This is known as "co-ordination of benefits". Also, if you have coverage under the CDHA plan you don't have to worry about losing your benefits if your spouse loses his/her coverage as a result of job loss. Apply for your benefits when you are healthy to do so before it's too late.

It's important to make sure you're adequately protected. Consider the following:

- While death is probably the furthest thing from your mind, consider how your family would cope if you were no longer around. The economic realities would soon set in: bills, mortgage payments, legal fees, taxes and funeral expenses, not to mention everyday living expenses. Financial experts generally

recommend that you should have life insurance coverage equal to five times your annual income. Are you adequately insured?

- No matter how careful one is, accidents can happen. According to the National Safety Council (2000 Report), accidents ranked as the fourth leading cause of death worldwide behind heart disease, cancer and stroke. Are you and your family prepared for the financial consequences of serious injury or death that can result from an accident?
- One in three adults between the ages of 35 and 65 will become disabled for at least 90 days prior to age 65 and one in seven can expect to be disabled for five years or more. * How would you protect yourself, your family and your business if you were to suffer a disability? Any extended period of time during which you couldn't earn an income could wreak havoc on your financial situation.
- One in three Canadians will contract a life altering illness during his/her lifetime. ** With advances in medical science, there is an increasing chance individuals will survive these catastrophic illnesses – but not without serious implications to their lifestyle and finances. Even with adequate life, disability and medical insurance, one could still be left with large expenses that could put their financial security at risk. Do you have Critical Illness Insurance coverage in place to help cover these costs?
- Expenses for medical cost and services – such as prescription drugs, paramedical services, semi-private or private hospital accommodation – not covered by provincial plans can add up. Do you have medical coverage to help pay for costs not covered by provincial plans?
- Did you know that under tax legislation, if you're self-employed, you may be allowed to deduct the premiums you pay for health insurance from your taxable income (subject to certain conditions)? Please consult your tax advisor and/or accountant to discuss all tax implications.

The CDHA feels that it's important that you have access to affordable and comprehensive benefits. That's why we've provided our members with access to this coverage. And, by purchasing your insurance coverage through the CDHA plan, you also support the Association and its activities.

For more information on the coverage available or to get an application, please contact Sun Life Assurance Company of Canada toll-free at **1 800 669-7921**, or in Toronto call **(416) 408-7390**.

* Source – Commissioners Disability Table, 2000; Canadian Life and Health Insurance Facts, 2000.

** Source – National Cancer Institute, Canadian Cancer Society Statistics

L'ENTREPRENEURSHIP

L'Entrepreneurship Center at Miami University of Ohio a une définition intéressante de l'entrepreneurship : "L'entrepreneurship est le processus qui consiste à identifier une vision, à la développer et à la mettre au monde. La vision peut être une idée innovatrice, une opportunité, ou simplement une meilleure façon de faire quelque chose. Le résultat final de ce processus est la création d'une nouvelle entreprise, formée dans des conditions de risque et d'incertitude considérable." Ce numéro de *Probe* tourne le projecteur sur certaines de celles qui sont présentement à construire sur le passé pour créer quelque chose de nouveau pour l'avenir.

LA PRATIQUE INDÉPENDANTE

La pratique indépendante de l'hygiène dentaire est souvent visualisée comme une pratique autonome d'hygiène dentaire, mais ce n'est qu'une forme d'accès direct aux soins d'hygiène dentaire. L'objectif vise à améliorer l'accès du public aux soins, et non pas à faire en sorte que les hygiénistes dentaires travaillent isolées des dentistes ou d'autre pourvoyeurs des soins de santé. La pratique autonome de l'hygiène dentaire peut sembler très différente d'un cabinet dentaire traditionnel, selon le domaine de concentration de l'hygiéniste dentaire. Il est intéressant de noter que ce terme fut créé par les organismes de dentisterie.

LA PRATIQUE NON SUPERVISÉE

La pratique non supervisée veut dire que les hygiénistes dentaires prennent les décisions de traitement au sein de leur domaine de pratique sans être soumises à la supervision d'un dentiste. Le statut de supervision est défini dans le cadre des réglementations provinciales d'hygiène dentaire.

L'AUTO-RÉGLEMENTATION

Jetons un coup d'œil à l'extérieur de l'hygiène dentaire pour voir comment le Royal College of Nursing de l'Australie définit l'auto-réglementation :

"le gouvernement des infirmières par les infirmières, dans l'intérêt du public"... "Les processus d'auto-réglementation visent à "donner la preuve que les praticiennes répondent aux attentes de la société et maintiennent les normes de pratiques attendues" L'auto-réglementation professionnelle n'est pas simple à définir, mais elle contient un certain nombre d'éléments dont chacun contribue à l'objectif général et répond de cet objectif de protection du public. Les éléments de l'auto-réglementation comprennent : l'établissement de normes professionnelles ; l'élaboration d'un Code de déontologie et d'un Code de conduite professionnelle ; l'examen par les pairs ; la participation à des activités professionnelles et à l'éducation permanente ; la

recherche ; la découverte de nouvelles connaissances ; les publications professionnelles ; le développement et la surveillance d'une pratique avancée, et des processus d'établissement des titres de compétences et de la certification. La responsabilité professionnelle individuelle et les attentes des clients contribuent également à l'auto-réglementation par le biais des attentes en matière de normes de pratique et de comportement.

On prétend... que si les infirmières n'agissent pas d'une façon cohérente en élaborant et en mettant en œuvre des mécanismes de contrôle de leur pratique, il restera difficile de réclamer un statut professionnel complet et des groupes qui n'ont rien à voir avec la profession chercheront à exercer un contrôle sur elle.²

Autrement dit, l'auto-réglementation signifie que vous êtes responsables de vos actions devant le public.

Ces concepts sont tous distincts, mais il arrive parfois qu'ils sont liés les uns aux autres de façon erronée. L'auto-réglementation ne signifie pas l'absence de supervision ; l'absence de supervision ne signifie pas l'indépendance ; et l'auto-réglementation ne signifie pas l'indépendance. Lorsque vous parlez de ces questions ou lisez des articles qui en traitent, essayez de garder ces différents sens distincts dans votre esprit.

D'autres questions sont également souvent liées. Les organismes de dentisterie disent qu'il y a actuellement pénurie d'hygiénistes dentaires. Il n'y a pas d'évidence valide pour soutenir cette affirmation. Les préoccupations des organismes de dentisterie concernant l'auto-réglementation sont liées aux craintes que les entrepreneurs en hygiène dentaire deviendront une concurrence et qu'elles ne seront pas disponibles comme employées. La scolarité de niveau baccalauréat dont l'ACHD se fait le promoteur est également une préoccupation, puisque des hygiénistes dentaires dotées d'une scolarité plus formelle auront plus d'options ouvertes à elles dans leur cheminement de carrière. Les lettres que les organismes de dentisterie adressent à leurs membres touchent leurs préoccupations concernant des salaires plus élevés. Ils cherchent à augmenter l'offre d'hygiénistes dentaires pour forcer les salaires à baisser ou à augmenter la portée des assistantes dentaires.

Dans le numéro de juillet/août du *Journal of the Canadian Dental Association*, le président, le Dr George Swetnam écrivait : "Ce qui complique le tableau, c'est le mouvement exercé par la direction des hygiénistes pour promouvoir les études au niveau du baccalauréat comme niveau de qualification. Les dentistes perçoivent cette action comme une mesure improductive

Les hygiénistes

dentaires sont en

voie de rompre

avec les traditions

que leur lègue le

passé et d'en forger

de nouvelles.

I started working in Brodie's clinic one day a week as well as accompanying her on her rounds in care homes. Within a few months, I assumed coverage of the four facilities in which she had been working and soon after I added two more long-term care facilities to my roster. The next year I increased that number by another two.

Word began to spread. By 2001, I was no longer looking for business: long-term facilities in the Okanagan Valley were looking for me. Administrators began to recognize that my service made their lives—and more importantly, the lives of their clients—easier.

Today I have contracts with eight long-term care facilities in the Okanagan Valley. I see 720 residents for annual assessments and of those, 200 are private dental hygiene clients who pay a fee for service. In addition, I have two sub-contracting dental hygienists who also see patients.

I spend one day a month in each of my contracted facilities reviewing the updated list of new residents, inquiring about changes and modifying both the facilities' files and my own. I personally examine every new resident and provide oral health care plans for them *and* for facility staff, so they in turn can help residents take care of their teeth. I follow up on

But none of this would be possible if it were not for the Residential Care Licence created by the College of Dental Hygienists of British Columbia in 1999. This licence allows hygienists to work in facilities located in communities where there isn't a dentist to whom they can refer patients. Fortunately for us in Kelowna, we do have a dentist with mobile equipment who does the dentistry. Without the Residential Care Licence, dental hygienists are restricted in that they cannot perform hygiene services on anyone who has not had a dental exam in the last 365 days, even though there may not be a dentist willing or able to see potential patients living in nursing homes or long-term care facilities. I received the education required for my Resident Care License through the University of Washington in June 2001.

Despite the incredible progress and growth I've experienced, I feel as if I've only scratched the surface of what may be possible in terms of providing services to long-term care facilities here in the Okanagan Valley. With a combined population of more than 70,000, Vernon and Penticton are less than an hour's drive from Kelowna. Like Kelowna, they are home to a significant number of residents who require in-house dental care. Ultimately, I hope to offer dental hygiene services to facilities in those towns and other sur-

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"What I *really* need is someone to take care of my long-term care facility business."

any concerns they may have regarding those residents. While I do not diagnose, I do make recommendations when necessary and I encourage residents to receive an annual examination by a dentist when possible. I also communicate with the patients' relatives or powers of attorney regarding oral health care and payment schedules.

Everyone benefits from this relationship with the long-term care facilities: the patients and their families, the facilities, and me. Long-term care facilities in British Columbia must offer dental assessments of a resident within 30 days of the resident moving in. Providing that service can be incredibly difficult if there is no dentist or hygienist willing to walk away from private practice on a frequent basis to assess a patient who is unlikely to visit his or her clinic in the future.

Working with elderly patients does present unique challenges. There are times I can separate myself from my work and simply do "the job." And there are times when I meet people who could easily be a loved one of my own, people who remind me that this underserved and often isolated cross-section of my community has value and deserves compassion and respect.

And yes, there are challenges in owning and running my own business but I believe that the benefits far outweigh the alternatives. I must say that the biggest perk of my job is that my time is my own. I don't have to see "X" number of patients in any given day. I never have another patient (or five) waiting for me and that means that I determine how much time I spend with each patient—which is a good thing, as some of my clients require more time than others. Best of all, as a mother of two, I have the freedom and flexibility to take a day off and join my kids on a field trip or other important events.



rounding communities. In so doing, an entire region would be ripe with opportunity for other dental hygienists wishing to work independently as I do. There is certainly more than enough work to go around. And ultimately too, I hope that one day soon our industry will be completely self-regulated. Until major insurance carriers recognize our fee codes and pay dental hygienists directly, we will continue our struggle.

As I celebrate my 20th anniversary in dental hygiene, I can honestly say that I'm still jazzed by what I do. If had an opportunity to do it all again, I would. And I wouldn't change a thing. Sure, there are days that are downright exhausting and there are moments when I recall the 9 to 5 simplicity of working in private practice ... but would I ever go back? Not on your life!

Interested in long-term care? I would love to hear from you—<mfine@telus.net>. 



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"ENTREPRENEURSHIP" (continued from page 184)

Lack of sales experience

I might visit a facility three or four times to explain my services to yet another administrative level of approval.

"ALTERNATIVE PRACTICE" (continued from page 180)

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Trying to deal with limited health care dollars

Health care and long-term care are underfunded and facilities are struggling to keep up staffing and services for increasingly sick and cognitively impaired residents. Oral care is just one of the demands on time and scarce resources.

Bookkeeping

It is hard to make the commitment to keep the books up to date. I use the 'One-Write' to track my billings. To help manage my recordkeeping, I make a point of using my credit card for everything possible. I use Quicken as my computer program and find that I can do my own bookkeeping. A bookkeeper is available to do my books and monitor my accounts if needed at \$15 per hour.

What are the joys of your own business?

- The grateful families and staff who are trying to do their best for those under their care.
- The respect of my peers and the allied health professions.
- Word-of-mouth referrals
- Feeling of accomplishment as positive changes take place in the oral care and well-being of my clients
- No delinquent accounts as my service is highly valued

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The Challenges of Setting Up a Business

by Margit Juhasz, RDH*



Life is full of challenges, opportunities, and adventures. Depending on how we are “wired” individually, we can tap into many different life challenges. I enjoy going for anything new and unusual; my mind just works that way. I have a strong pull to walk on new, unusual, different, and uncommon paths. Knowing this about myself, I find it is easy to live by the saying: “Being challenged in life is inevitable; being defeated is optional.”

Since graduating in 1993, there were many times when my potential as a dental hygiene entrepreneur was tapped. I came from a very good school and so was confident of my skills on the first day of practice. I worked in the same dental office for more than seven years. After the first three years, it became clear to me that I was good at what I did and how I did it, and clients were kind enough to compliment me. I could provide excellent dental hygiene services to our clients with my scaling, communication, education, and ethical and

“If you can imagine it,
you can achieve it;
if you can dream it,
you can become it,”

motivational skills. The clients had a lot to do with this by giving me feedback on a daily basis.

With regular, quality perio scaling, our clients’ oral health improved and my job became easier. It was a breeze to go through the appointments. Daily I was being pushed by my inner voice, asking “What’s next?” and telling me, “You need to do more.” Finally I realized that I needed a promotion! I was ready to climb the oral health corporate ladder.

However, in our field, promotion does not really exist unless we want to obtain more education or a new degree. So I decided to answer my inner drive by setting up my own dental hygiene practice.

I call this ingredient of setting up a business the “pull-push” drive. But for a pull to occur, I believe a push needs to be

present—that is just plain physics. The push in my case was my former employer pushing me to sell the dentistry side of his business in an aggressive manner. My perio program, which I successfully implemented, did not seem to matter to him. He told me during a lunch meeting that “dental hygiene has no future; only bridges, crowns, onlays and porcelain veneers have value.” I knew that he was wrong, so with this push I was on my way to designing my dental hygiene practice. Pull is the second ingredient in the setting-up-business recipe. The saying, “If you can imagine it, you can achieve it; if you can dream it, you can become it,” became a way of living for me. The more I started to imagine having my own dental hygiene practice, the more I knew that it would happen one day.

Starting out

As I was figuring out which segment of the population to focus on with my dental hygiene services (adults, children, seniors, the homebound), where to provide the services (stationary or mobile), and when to provide services (daytime or evenings), I learned this was a challenging path. Preparing my medical health history form along with my professional pamphlet was the first and easiest test on the path of the dental corporate ladder.

* The author graduated in 1993 from Erie Community College, New York, with an Associate in Applied Science Dental Hygiene. She has been practising in general perio-oriented practices since graduation and started her own practice in June 2001. At present she is a board member of the Ontario Dental Hygienist’s Association and district director for Halton Peel. Formerly, she was president of the Halton Peel Dental Hygienists’ Society and professional development coordinator. She also practises in Germany on a few occasions on a part-time basis. Every year, she takes her project, BRUSH*FLOSS*SMILE*IN*HUNGARY*, to her native country where she teaches children about oral health and creates awareness about the importance of oral health. She bicycled across Canada in 1989.



I needed to take the saying, "Business is business," seriously.

In accordance with the Ontario Dental Hygiene Act of 1991, dental hygienists must obtain an "order" for treatment from a member of the Royal College of Dental Surgeons of Ontario to provide scaling, root planing, and gingival curettage to clients. This is straightforward if a dentist employs you. However, if you are setting up a private practice, it is more complicated since you may need to obtain orders from a number of different dentists. Securing an order turned out to be the biggest obstacle and the greatest challenge to overcome, even more than paying for printing the forms, pamphlets, and business cards. My search for an order became discouraging. It was at these times when the saying, "If you can imagine it, you can achieve it; if you can dream it, you can become it," helped me to stay focused on succeeding with setting up my dental hygiene practice. Initially, dentists declined my request for an order; however, I finally secured an order.

Then my order was revoked because the dentist's regulatory body advised against it. We had only a verbal agreement because we knew, liked, and trusted each other. We had no contract or signatures, and the dentist who had provided me with an order told me to stop working with my clients. I had invested money, time, effort, and energy. I had a flyer, business cards, and my medical health questionnaire done, and had recruited clients as well.

Becoming a businesswoman

I thought I had put all the necessary ingredients into the recipe for a dental hygiene practice. It was not true. I did not have a business plan, a written contract with the dentist, and details were not on paper. Only the order form for treatment had the signature. I needed to take the saying, "Business is business," seriously. Business is different from a casual conversation, different from liking and trusting each other. There was a big lesson to learn here, and I decided not to give up.

My focus stayed the same as before. I kept imagining my dental hygiene practice, squared my shoulders, and got to work pounding the pavement to learn about the business world and to find an order. I am a very confident clinician, but at business meetings, I felt out of place. Even when I had a suit on, I thought that people still saw me as a dental hygienist in a uniform, not as a businesswoman. So I used my clinical confidence to help overcome the challenge of not being a businesswoman with a business degree.

First, I prepared a business plan. I started imagining myself as a businesswoman and worked hard to behave as one. I attended local business meetings, business lectures, and breakfasts to learn from others. I dressed appropriately, kept my paperwork

in a briefcase, carried a business card holder, and learned to give out my cards. Not used to having business cards, I had to force myself to give out them out. I kept them in my pocket, purse, and briefcase. I practised in front of the mirror at home giving out a card. There are written and unwritten rules about how to give out and receive business cards at gatherings. Don't take a person's card and not look at it; rather, hold it in your hand awhile, handle it carefully, and compliment people on their card. Never refuse a business card.

Dental hygienists tend to be understanding and empathic, it is our nature and our job requires it. When clients are late, cancel, or do not show up for their appointment, we forgive them and put it in our books as — it's ok. However, the business world is different. It requires a certain amount of toughness; in other words, we need to develop a thicker skin. Verbal promises have value only when decorated with signatures. Words need to be spelled out in black and white so they become valuable and help to make our business instead of breaking it. After all, at the end of the month, rent, equipment, bills, wages, phone bills need to be paid. In order to do this, our business must be progressive. Choosing the right person with whom to collaborate is vital to a dental hygiene business.

I always felt special being a registered dental hygienist, especially these days when our profession is climbing the professional slopes. Therefore, when I participate in marketing or business gatherings with people working outside of the oral health field, I feel even more special as a pioneer dental hygienist/businesswoman with my own practice. I believe I have the best of both worlds. The combination of the business and clinical part of my job gives me great pleasure on a daily basis. I love being a dental hygienist businesswoman. People are very interested and

make comments such as: "I did not know it was possible." "Is this new?" "Since when has this been possible?" "What do the dentists say about it?" "Good for you." "Finally somebody is doing it."

Building blocks of a practice

I believe the most important building blocks of a dental hygiene practice are great clinical skills; being liked by the clients; being sincere, professional, ethical, and fair. In addition we need great communication skills. Business education, marketing, accounting, and computer skills are also very helpful in operating a business.

We need supportive family members who will listen to us during our up and down times. It is essential to have a lot of energy. Dental hygienists are very versatile; this comes in handy when we need to wear different hats in our own private dental hygiene practice. One moment we scale; then we teach; and then we make, and remind clients of, appointments. We order equipment, dental products, stationery; we also pay bills, do banking, place advertisements, and give interviews to promote our practice. All these activities require different hats, which are changed from moment to moment. With a great attitude, passion, excellent family and professional support, dental hygienists are able to become true business owners of their own dental hygiene practices.

Setting up and running a dental hygiene practice is challenging, full of surprises, ups and downs. However, dental hygienists can overcome these challenges since they are achievers, versatile, smart, and goal oriented. We have a common goal—to provide direct public access to dental hygiene care. Dental hygienists who are inclined will strive to

"All we need to do is tap into our potential as dental hygiene entrepreneurs."

have their independent dental hygiene practices, where dental hygienists decide on all procedures in collaboration with clients, and refer clients to dentists or other health care providers, as

required. We need and want to achieve direct access to dental hygiene services for the general public and our professional sake. The public is right by our side with their need for services and complete support. All we need to do is tap into our potential as dental hygiene entrepreneurs, with all the possibilities and challenges.



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"L'ENTREPRENEURSHIP ET L'ORIGINALITÉ" (suite de la page 186)

qui ne ferait rien pour soulager la pénurie d'hygiénistes. Bien que nous respectons les désirs des hygiénistes dentaires de faire progresser leur niveau de scolarité, il n'est pas évident que cette mesure soit nécessaire. La formation dispensée aujourd'hui paraît adéquate pour le travail en cabinet dentaire."³

Peut-être les organismes de dentisterie devraient-ils être conscients de facteurs qui pourraient être à la source de cette perception qu'il y a pénurie d'hygiénistes dentaires : manque de respect envers les hygiénistes dentaires en tant que professionnelles ; accent mis sur la génération de fonds plutôt que sur les soins aux clients ; accent sur le cosmétique plutôt que sur la santé ; le détartrage comme une fonction technique plutôt qu'une composante dans un processus de soins. L'usage fait ci-dessus des termes "formation" et "hygiénistes" indiquent le manque de respect.

Même si vous vous sentez très bien, aujourd'hui, dans un milieu de travail en cabinet traditionnel, la pensée d'autres possibilités au cours de votre carrière vous intéresse-t-elle ? Applaudissons les hygiénistes dentaires qui s'embarquent en territoire "original". Et ne nous laissons pas prendre au piège dans la désinformation et la confusion concernant les objectifs vers lesquels tend la profession de l'hygiène dentaire, soit l'auto-réglementation d'un bout à l'autre du pays et l'ouverture des portes de l'éducation.

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BRITISH COLUMBIA

FORT. ST. JOHN A full-time hygienist is required in Fort St. John, B.C. We have a rapidly expanding practice with eight staff and two dentists. Fort St. John is a booming town with over 20,000 people and has numerous employment opportunities for spouses. Located one hour's drive from the mountains, this office would suit people who take advantage of the endless outdoor activities this area has to offer. If you are interested, please call Dr. Rob Myers in the evening at (250) 785-9961 or fax your résumé to (250) 787-1656.

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TERRACE Full-time or part-time hygienist required for a well-established, busy practice. A great community to live and raise a family. Pleasant working environment and motivated staff. Contact Marilyn at (250) 638-8567 or fax a résumé to (250) 638-8073.

VANCOUVER Well-established practice (www.shaughnessydental.com) looking for full-time hygienist, who is energetic and loves team atmosphere. Position four days per week: Tuesday, Wednesday, Friday 8-5 p.m.; Thursday 12-8 p.m. Available August 27, 2002. Salary depends on experience. Please call Lori at (604) 941-4064 to arrange interview, e-mail <reception@shaughnessydental.com> or <dr.a.johnson@telus.net>. We are waiting to hear from you!

VANCOUVER Thinking of moving to the beautiful West Coast? This is your chance. Experienced hygienist required to perform orthodontic duties in a Vancouver specialty office. Telephone (604) 438-6989 or fax résumé to (604) 438-6399.

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VANCOUVER ISLAND, QUADRA ISLAND Registered dental hygienists required for busy, fun-filled Campbell River office and relaxed Quadra Island clinic. Candidates must be outgoing, possess excellent communication skills, and be able to work well as a team member with a large friendly staff. Quadra Island is a scenic 8-minute ferry trip from Campbell, BC and has a gorgeous oceanfront office. Our Campbell River clinic boasts an ocean view and large patient base. Campbell River and Quadra Island are ideal for outdoor enthusiasts, yet offer quick access to large centres. For more information regarding our beautiful communities, check the website: <www.campbellrivertourism.com>. Fax résumés to (250) 923-3151. Phone for information at (250) 923-3000.

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CALGARY We are seeking an enthusiastic, progressive, registered dental hygienist to join us in our busy, well-established, modern family dental practice. Our focus is quality dental care in all aspects of health. New grads welcome. Please fax résumé to (403) 251-1084 or mail it to 11436 Braeside Drive S.W., Calgary, AB T2W 4X8.

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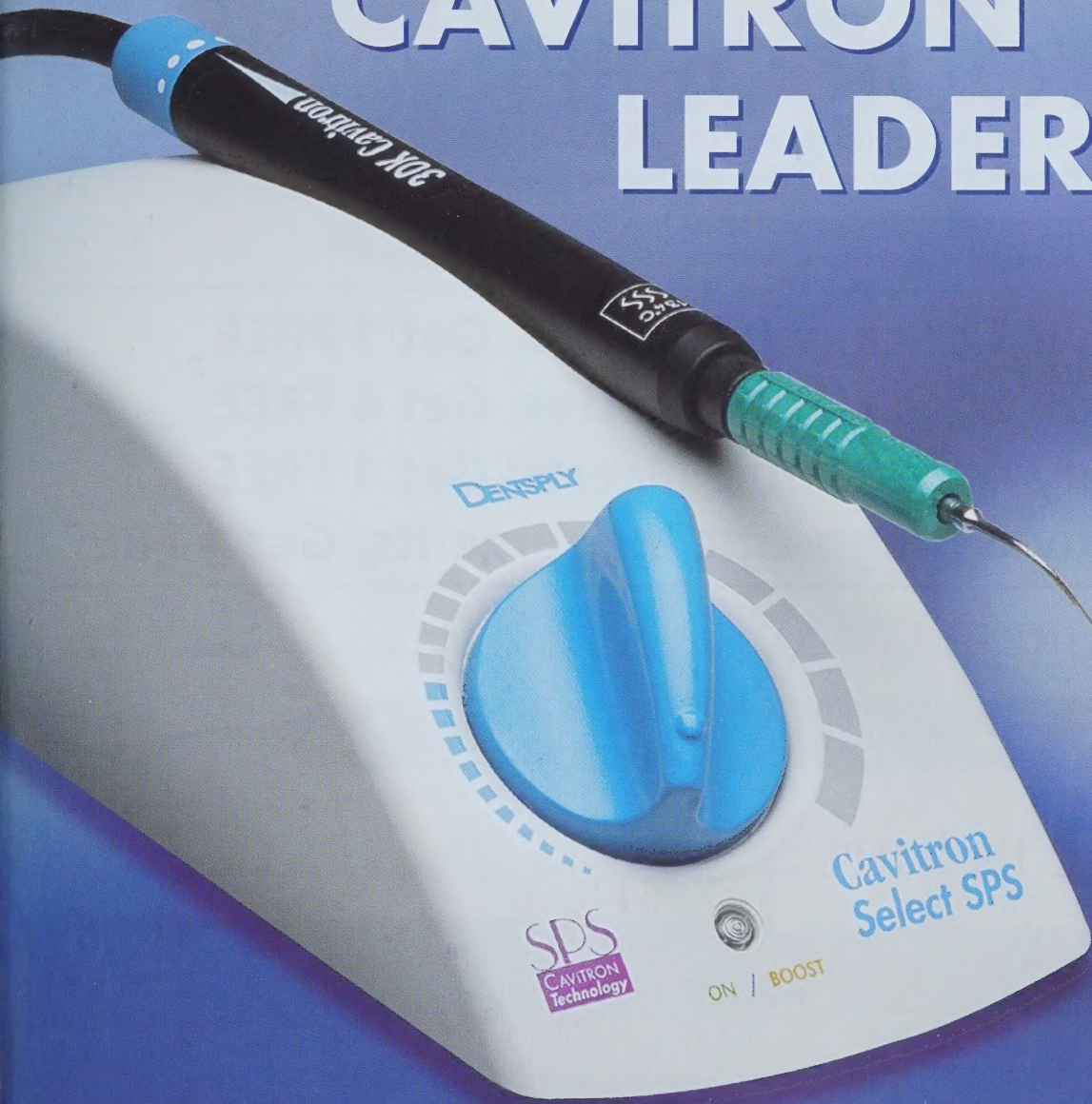
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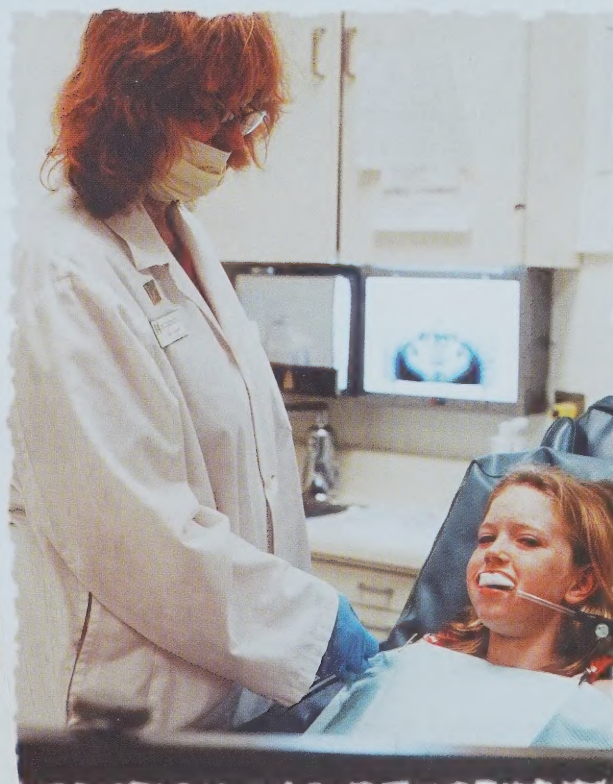
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THE FLUORIDE DIALOGUE: CDHA POSITION STATEMENTS



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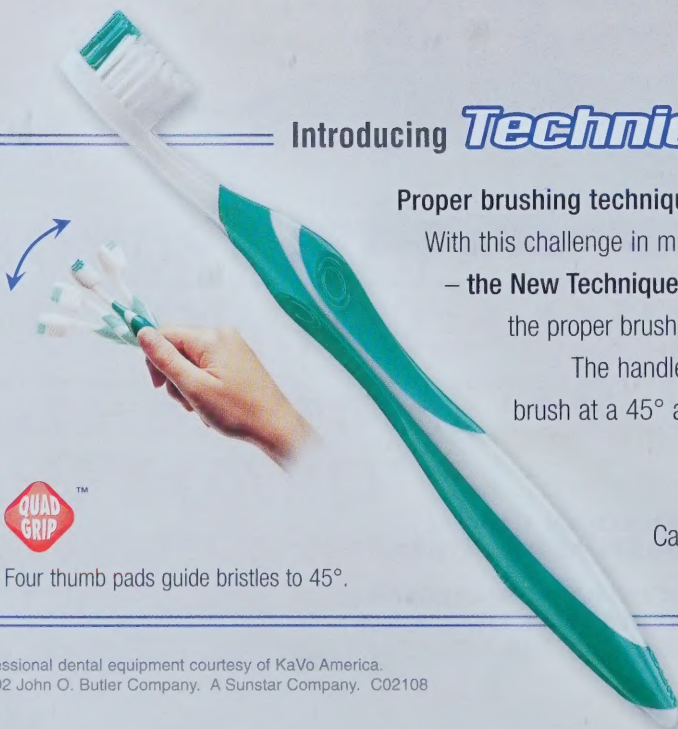
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PUTTING IT INTO PRACTICE

BY KAREN WOLF, DipDH

"Practice what you preach." We've heard this expression since we were knee-high to a grasshopper, and I must confess, the older I get, the more difficult it is to live up to. Regardless of how difficult the application, the journey to this goal is a worthy one. Words are hollow if they are not applied in real life.

It is said that we now live in the Information Age rather than the Management Age. During the Management Age, it was believed that people needed to be told what to do. However, it is now believed that people need to be given the information required to make informed decisions. This concept has led science, as it creates models for research, education, and practice, to rely on "evidence-based" decision-making. For example, the evidence supports CDA's 2002 campaign, "Oral Health: An Important Piece of Your Overall Health." The evidence supports the ODHA's 1999 campaign, "Gum Disease and Overall Health: There Is a Link." The evidence supports CDHA's Ends Policy, "Canadians [should] value oral health as a part of total wellness."

The "evidence" also supports the link between periodontal disease and preterm low-birth-weight babies, tobacco abuse, and diabetes mellitus. In addition, ongoing research is linking the presence of oral diseases with other systemic diseases such as heart disease, stroke, and respiratory infections. As dental hygienists, we are the prevention and promotion specialists within the oral health care sector. This puts us in a very valuable position to offer our services to Canadians who choose to "value oral health as a part of total wellness." According to a recent study by Dr. Pran Manga, those Canadians who most need the services of a dental hygienist are the very ones who *underutilize* dental care services in general. These Canadians include seniors, the working poor, First Nations and Inuit populations, and those living in institutions (i.e., long-term care facilities). If the evidence supports us as oral health care professionals, then why are so many Canadians still unaware of the value of a healthy mouth or unable to choose their provider?

There are a few answers to this query, but the primary reason is still the access issue. There is an old saying, "If it ain't broke, don't fix it!" Well, the oral health care picture may not be broken but it sure could use some attention. According to Dr. Manga, one reason why governments have not taken a serious look at the Canadian oral health care picture is that there is a perception that the oral health care system has performed reasonably well. But the CDHA, for one, is not happy with the governments' definition of "reasonably well."

"PUTTING IT INTO PRACTICE" ... continued on page 228

LA MISE EN PRATIQUE

PAR KAREN WOLF, dip. HD



"Pratiquez ce que vous prêchez." Nous entendons cette expression depuis que nous sommes hautes comme trois pommes et je dois admettre que, plus j'avance en âge, plus je trouve difficile de me conformer à cette maxime. Quelle que difficile que soit l'application, le fait de tendre vers ce but vaut la peine. Les mots restent vides de sens s'ils ne sont pas appliqués dans la vie réelle.

"Canadians who most need the services of a dental hygienist are the very ones who underutilize dental care services in general."

On dit que nous vivons maintenant à l'ère de l'information plutôt qu'à celle de la gestion. À l'ère de la gestion, on croyait qu'il fallait donner à quelqu'un l'information qui lui était nécessaire pour prendre des décisions informées. Ce concept a mené la science, qui crée des modèles pour la recherche, l'éducation et la pratique, à s'appuyer sur une prise de décision "axée sur la preuve". Par exemple, la preuve soutient la campagne 2002 de l'ADC, intitulée "La santé buccale : une partie importante de votre santé générale". La preuve soutient la campagne de 1999 de l'ODHA, "La maladie des gencives et la santé générale : il y a un lien". La preuve soutient la politique de buts de l'ACHD, "Les Canadiens [devraient] valoriser la santé buccale comme faisant partie du bien-être général".

La "preuve" soutient également le lien entre la maladie périodontique et les bébés prématurés de faible poids à la naissance, l'abus du tabac et le diabète sucré. En plus, la recherche actuelle lie la présence des maladies buccales à d'autres maladies systémiques comme les maladies du cœur, l'accident cérébro-vasculaire, et les infections respiratoires. En tant qu'hygiénistes dentaires, nous sommes les spécialistes de la prévention et de la promotion dans le secteur de la santé buccale. Ce statut nous met dans une position très importante où nous pouvons offrir nos services aux Canadiens qui choisissent de "valoriser la santé buccale comme faisant partie de leur bien-être général". Selon une

"LA MISE EN PRATIQUE" ... suite à la page 228



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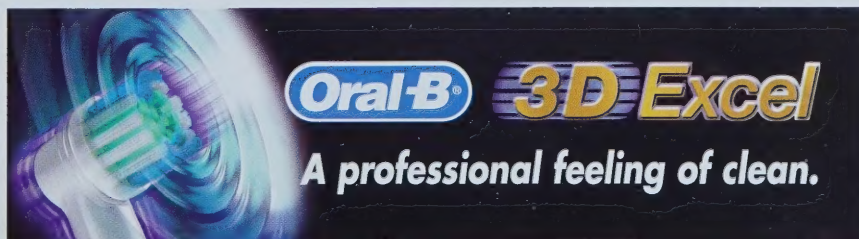
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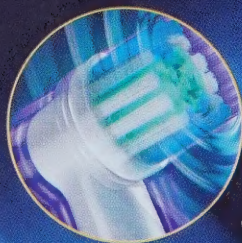
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1. Warren, PR et al. *Am J Dent* 2001;14:3-7. 2. van der Weijden, GA et al. *J Dent Res* 2001;80(Spec.Iss):119,Abstr.672.
3. Sharma, NC et al. *J Dent Res* 2001;80(Spec.Iss):548,Abstr.171. 4. Braun Oral-B 2001 Professional Use Test:
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EXECUTIVE DIRECTOR'S MESSAGE

THE CDHA FAMILY

BY SUSAN A. ZIEBARTH

The family is constantly changing, as each member changes. Some changes we recognize as developments, and the pleasure they bring usually makes us more adaptable. Some changes threaten, or disappoint other members, who may try to resist the change, or punish someone for changing.

— Terri Apter¹

“CDHA is the voice of the dental hygiene profession nationally and there is strength in numbers.”

This quotation speaks of membership in a family, and CDHA is the “family” for professional dental hygienists. Our association is dynamic—changing as our members change and evolve, as the profession emerges and gains the respect it deserves as a primary care profession. There are changes that may enliven or disappoint, in both dental hygiene itself and your work environment. CDHA tries to minimize the disappointments and to charge up your enthusiasm for your career. We also provide resources to help you in your busy work life.

As I write this, we are busy processing membership renewals. If you are still pondering whether to renew, perhaps this message will remind you of the value of your CDHA membership and why you should invest your \$135 soon.

Last year we surveyed our members and conducted in-depth interviews with key stakeholders. You wanted CDHA to be a central spokesperson, the coordinator or hub connecting us all, facilitating communication and collaboration, identifying best practices, and supporting a strong dental hygiene community. We started to build a plan to improve our ability to do this.

We first wanted to find out about our members' knowledge and skills. Now we can target messages that may be of interest to you and from time to time ask you for assistance in your area of expertise. We targeted requests for volunteers interested in women's health policy issues to sit on a board of an organization; for people to help revise our code of ethics and standards documents; for members to work on a national dental hygiene research agenda. You can update your own profile on-line, including address changes, or call CDHA to have it updated anytime.

“THE CDHA FAMILY” ... continued on page 238

MESSAGE DE LA DIRECTRICE GÉNÉRALE

LA FAMILLE ACHD

PAR SUSAN A. ZIEBARTH

La famille est en constant changement du fait que chacun de ses membres change. Certains changements que nous reconnaissons comme des développements, et le plaisir qu'ils nous procurent, nous rendent habituellement plus adaptables. Certains changements menacent ou déçoivent d'autres membres de la famille, qui peuvent tenter de résister au changement ou de punir quelqu'un parce qu'il/elle change.

— Terri Apter¹

Cette citation parle des membres d'une famille, et l'ACHD est la “famille” des hygiénistes dentaires professionnelles. Notre association est dynamique ; elle change au fil du changement de nos membres et évolue à mesure que la profession émerge et se gagne le respect qu'elle mérite comme profession de soins primaires. Il y a des changements qui peuvent animer ou décevoir, tant dans le domaine de l'hygiène dentaire elle-même que dans notre milieu de travail. L'ACHD essaie de minimiser les déceptions et de charger votre enthousiasme à l'égard de votre carrière. Nous fournissons également des ressources pour vous aider dans votre intense vie de travail.

Au moment où j'écris ces lignes, nous nous affairons au traitement des renouvellements des adhésions. Si vous hésitez encore à vous décider de renouveler, peut-être ce message vous rappellera-t-il la valeur de votre adhésion à l'ACHD et la raison pour laquelle vous devriez investir votre 135 \$ sans tarder.

L'an dernier, nous avons fait un sondage auprès des membres et tenu des entrevues en profondeur avec des interlocuteurs clés. Vous vouliez que l'ACHD soit un porte-parole central, qu'elle soit la coordonnatrice ou le carrefour qui nous connecte toutes, qui facilite la communication et la collaboration, qui identifie les pratiques exemplaires, et qui soutient une solide collectivité de l'hygiène dentaire. Nous avons commencé à bâtir un plan pour améliorer notre capacité de faire ces choses.

Nous voulions d'abord découvrir quelles étaient les connaissances et les compétences de nos membres. Maintenant, nous pouvons cibler des messages qui peuvent représenter un d'intérêt pour vous et, de temps à autre, vous demander de l'aide dans votre domaine de spécialité. Nous avons ciblé des demandes de bénévoles intéressées aux questions de politiques sur la santé féminine pour faire partie du conseil d'un organisme ; nous avons demandé à des membres de nous aider à réviser notre code de déontologie et nos documents types, nous avons sollicité l'aide de membres

“LA FAMILLE ACHD” ... suite à la page 236

1. Terri Apter: *Altered Loves*. New York: St. Martin's Press, Ch. 4, 1990

1. Terri Apter: *Altered Loves*. New York: St. Martin's Press, Ch. 4, 1990



A COMBO YOU CAN SINK YOUR TEETH INTO



Intake levels of calcium and vitamin D aimed at preventing osteoporosis have a beneficial effect on tooth retention.¹

In a recent study of 145 healthy elderly men and women, a combination of calcium and vitamin D supplementation significantly reduced tooth loss.¹ In the placebo group, 27% of the subjects lost one or more teeth, compared to only 13% in the group taking supplements.¹ Adequate vitamin D enables efficient utilization of calcium at all levels of calcium intake. In its absence, the calcium absorbed by the intestines is inadequate for the body's needs.² With age, both the efficiency of calcium absorption and our ability to adapt to low calcium intakes decrease, due in part to an age-related decline in the kidney's ability to convert vitamin D to its active metabolites and a reduced ability for vitamin D synthesis in the skin.^{2,4}

The prevalence of vitamin D insufficiency—defined as levels inadequate for optimal bone health—is widespread in this country, especially among the elderly. In fact, studies across Canada have shown that both calcium and vitamin D intakes are well below recommended levels.⁵⁻⁷ Although a recommended daily allowance does not yet exist for vitamin D, adequate intake has been defined as 5 µg (200 IU) daily for young adults and 15 µg (600 IU) daily for the elderly.⁸ But these recommendations are substantially lower than the 20 µg (800 IU) that clinical trials indicate is necessary for the prevention of osteoporotic fractures.⁹⁻¹¹ Milk, the best dietary source of vitamin D, contains 2.6 µg/250 mL. Four glasses per day provides more than half the amount believed necessary for the prevention of fractures, while at the same time fulfilling calcium, protein and phosphorus requirements—all necessary for a healthy skeleton.

The effectiveness of sufficient vitamin D has been amply demonstrated by studies such as the aforementioned one on tooth loss as well as a clinical trial in Boston in which daily calcium and vitamin D supplements were given to postmenopausal women from October to April (when the ability to synthesize vitamin D from the skin is compromised). It showed that women who took the combination rather than calcium alone suffered less bone loss from the spine.¹²

Oral bone loss and edentulousness are correlated with bone loss and low bone density at non-oral sites. Fortunately, sufficient calcium and vitamin D intakes build bone at various skeletal sites, including mandibular or alveolar bone, thereby improving tooth retention.¹

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THE FLUORIDE DIALOGUE: CDHA POSITION STATEMENTS

BY JUDY LUX, CDHA STAFF

INTRODUCTION

Historically, the Canadian Dental Hygienists Association (CDHA) has not developed a fluoride position relating to oral health promotion and disease prevention. However, as experts in disease prevention and health promotion, dental hygienists champion issues that are in keeping with these approaches. This paper presents a summary of the fluoride research that assisted the CDHA Board of Directors in developing fluoride position statements. The report presents the arguments and assesses the evidence on the positive and negative effects of fluoride use.

The report is based on an Internet search of fluoride research and policy position statements of various government and oral health organizations. The question of fluoride effectiveness is explored primarily by reviewing meta-analysis research, which is a collection of statistical methods designed to examine and summarize a series of investigations. Papers are included in the meta-analysis when they meet well-defined methodological selection criteria. Appendix A contains the grading system used in the meta-analysis for determining the quality of research and the strength of the recommendations. It is based on the United States Preventive Services Task Force's *Guide to Clinical Preventive Services*.¹ The report also includes individual research studies.

There are two opposing arguments in the fluoride debate. On the one hand, fluoride proponents claim that fluoridated water and the addition of fluoride to oral health products such as gels, varnishes, rinses, dentifrices, and supplements reduce the caries rates. They argue that, without optimal exposure to fluoride, the level of public oral health would deteriorate significantly. On the other hand, fluoride opponents claim it does not reduce dental caries and has a detrimental impact on general health.

The research and articles referred to in this paper are collated into fluoride information binders for future reference. The report did not examine the following areas since these considerations were outside the scope of the review: environmental and ecological impacts, legal issues, floss impregnated with fluoride, chewing gum containing fluoride, and intra-oral fluoride-releasing devices.



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WHAT IS FLUORIDE?

In 1996, Health Canada changed the classification of fluoride from an element that is essential for growth and reproduction to an element that has a "beneficial effect on dental caries."² The Food and Nutrition Board of the National Academy of Sciences – National Research Council (NAS/NRC) expresses a stronger view of fluoride's anti-caries properties when it states, "fluorine is essential for the prevention of dental caries and possibly osteoporosis."³

FEDERAL AND PROVINCIAL RESPONSIBILITIES

At the federal level, Health Canada endorses the fluoridation of drinking water but does not participate in the decision to fluoridate water supplies. Usually the provincial and territorial governments in conjunction with municipalities make this decision. In March 2001, the federal, provincial, and territorial governments developed a *Summary of Guidelines for Canadian Drinking Water Quality*⁴ that indicates the **maximum acceptable concentration (MAC)** of fluoride in drinking water is 1.5 mg/L. In 2002, Health Canada reported that an **optimal fluoride concentration** of 0.8 to 1.0 mg/L of fluoride concentration is recommended for water supply.⁵ In addition, Health Canada has established labelling requirements for dental products containing fluoride and has limited the amount of fluoride that can be added to bottled water or pre-packaged ice under the Food and Drugs Act.⁶

FLUORIDE MECHANISMS OF ACTION

Researchers' understanding of fluoride mechanisms of action in reducing dental caries has changed over time. Although it was initially thought that fluoride was effective through its incorporation into enamel before the teeth erupted, thereby reducing the solubility of the enamel, this effect is likely to be minor. Instead, its primary mechanism of action is post-eruptive. It is now understood that topical application or the constant supply of fluoride in the mouth is the most important factor in preventing dental decay.⁷

Fluoride has five principal topical mechanisms of action:

- It inhibits demineralization or protects the tooth against acids that dissolve tooth minerals.⁸
- It promotes remineralization of tooth enamel that has been demineralized by acids that cause tooth decay. Tooth decay is a result of mineral loss in teeth and fluoride helps to replace these minerals.^{9,10,11}
- It inhibits bacterial metabolism or enzyme activity in dental plaque by reducing the ability of plaque organisms to produce acid that causes tooth decay. Fluoride stops the bacteria from producing acids that cause tooth decay.¹²
- It aids in post-eruptive maturation of enamel.¹³
- It reduces enamel solubility.¹⁴

SOURCES OF FLUORIDE

Canadians are exposed to fluorides in food, water, dental products, soil, and the air. Dental products contain two forms of fluoride, topical and systemic. Topical fluorides act on the teeth already present in the mouth and include toothpastes, mouth rinses, and professionally applied fluoride gels, varnishes, and rinses. At least 95 per cent of toothpastes in North America contain fluoride, making it the most commonly used fluoride-containing dental product.¹⁵ Systemic fluorides are ingested into the body and become incorporated into forming tooth structures; systemic fluorides also give topical protection. They include fluoride found in supplements, water supplies, food, and beverages.

Some fluorides occur naturally in rocks and soil and are released into the environment by weathering processes and volcanic activity. In addition, approximately 23,500 tons are released into the Canadian environment each year from human activities, such as phosphate fertilizer production, aluminum smelting, and chemical manufacturing.¹⁶ This amount does not include fluoride that is added to drinking water. All vegetation and virtually all foods contain at least trace amounts of fluorides. Foods that contain the highest levels of fluorides include fish, shellfish, meat, and tea.¹⁷

FLUOROSIS

Dental fluorosis is a permanent hypomineralization of tooth enamel due to a fluoride-induced disruption of tooth development.¹⁸ In the mildest forms, the outer layer of enamel is affected, producing white opaque lines across the tooth surface. Bleaching with 10 per cent carbamide peroxide can treat this.¹⁹ In more severe forms, deeper layers are affected and the enamel becomes porous and has a chalky white appearance. Chewing erodes the surface enamel, producing pits that

become stained. Significant enamel erosion due to fluorosis can lead to tooth pain and impairment of chewing ability and require complex restorative procedures.²⁰ These may include placing resin or porcelain veneers or crowns on the teeth.

Healthy adults excrete about 90 per cent of the fluorides they consume. Young children, however, may retain up to half of the fluorides they ingest, storing it in the skeleton and the teeth.²¹ Enamel fluorosis can occur when young children ingest higher than optimal amounts of fluoride, from any source, during the period of tooth formation. Some researchers consider the risk for enamel fluorosis to be limited to children up to five to six years of age, following development of the maxillary central incisors;²² others consider the risk to be for children up to the age of eight, when the posterior teeth have developed.²³

Over time, studies show an increase in the rate of fluorosis. A 1993 study shows the amount of very mild and mild fluorosis was quite high, 15 to 60 per cent, in both fluoridated and non-fluoridated communities in Canada and the amount of moderate fluorosis was still very low.²⁴ However, a recent study conducted between 1999 and 2000 reports that 14 per cent of 7-year-olds and 12.3 per cent of 13-year-olds in Toronto had moderate dental fluorosis.²⁵ In 1994, C. Clark conducted a literature review and found the prevalence of dental fluorosis is now between 35 and 60 per cent in fluoridated communities and between 20 and 45 per cent in non-fluoridated areas. While the increase in this study represents primarily very mild and mild fluorosis, there is also some evidence that the prevalence is increasing in the moderate and severe classifications as well.²⁶ A 1999 federal-Ontario report shows very mild and mild dental fluorosis has increased to 20 to 75 per cent in fluoridated communities and 12 to 45 per cent in non-fluoridated communities.²⁷ Finally, a meta-analysis from the NHS Centre for Reviews and Dissemination (NHS CRD) at the University of York, England, reports approximately 48 per cent of the population shows fluorosis at fluoridation levels of 1.0 ppm; however, the studies were of low quality, level C (see Appendix B).²⁸

Silva and Reynolds agree that fluorosis has increased in both optimally fluoridated and non-fluoridated areas in the United States and Australia.²⁹ This may be attributed to the "halo" effect, in that drinks and foods that manufactured in fluoridated areas using fluoridated water are also available in non-fluoridated areas.³⁰ It may also be due to increased availability of fluoridated dental products, inadvertent ingestion of fluoride toothpaste, and the inappropriate use of dietary supplements.³¹

Knowledge of the halo effect and the increase in dental fluorosis have prompted studies on the total intake of fluoride to determine the benefits and risks. In 1994, Levy conducted a study on children's intake of fluoride from all sources, including food, beverages, fluoride dentifrice, and dietary fluoride supplements. Mouth rinses and professionally applied topical fluorides were not included. A calculation of the mean daily ingestion of fluoride shows that some children probably ingest sufficient fluoride from a single source that exceeds the optimal fluoride intake recommended from all sources and they are therefore at risk for fluorosis.³²

A study by Jones, Riley, Couper, and Dwyer also examined total intakes of fluoride in Canada. The report indicates that children aged seven months to four years consuming the maximum dose (water fluoridated at 1.6 ppm) are at risk of moderate levels of dental fluorosis and are consuming amounts



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only 20 per cent less than that at which skeletal fluorosis is possible, if maintained over long periods of time.³³

Optimum exposure to fluoride is expressed in milligrams per kilogram of body weight and is based on the amount of fluoride necessary to obtain a maximum reduction in caries with a minimum occurrence of dental fluorosis. Some researchers estimate optimum exposure is 0.05 to 0.07 milligrams per kilogram of body weight per day;³⁴ others suggest that it may be an even lower level of 0.03 to 0.04.³⁵ The Canadian Dental Association points out that the threshold at which fluoride causes dental fluorosis is not known precisely but has been estimated at 0.10 mg fluoride/kg body weight, and the most frequently used standard of 0.05 to 0.07 mg fluoride/kg body weight has generally been accepted as the upper limit intake for minimizing dental fluorosis.³⁶

A number of recent studies indicate that the increase in fluorosis may be due to the ingestion of infant formula prepared with fluoridated water. Fluoride intake is nil for infants receiving formula prepared with non-fluoridated water; however, infants receiving formula prepared with fluoridated water may be ingesting 0.08 milligrams per kilogram of body weight per day.³⁷ These infants are clearly receiving higher than optimal levels of fluoride in their diet.

In 2001, the Centers for Disease Control and Prevention (CDC) in the United States reported two studies confirming that consumption of infant formula beyond the age of 10 to 12 months is a risk factor for enamel fluorosis, especially when formula concentrate was mixed with fluoridated water.³⁸ Similar results were found in an Australian study that concludes prolonged consumption beyond 12 months of age of infant formula prepared with optimally fluoridated water may be a risk factor for dental fluorosis.³⁹ Levy, Kiritsy, and Warren reviewed a number of studies of fluoride intake in children and concluded that the fluoride content of foods and beverages, particularly infant formulas and water used in their reconstitution, should be monitored closely in an effort to limit excessive fluoride intake.⁴⁰ In a 1993 study of 350 children from birth to age four years, similar concerns were raised regarding the consumption of infant formula. This study concludes that the elimination of fluoride from infant formula would contribute significantly to reducing the prevalence of fluorosis.⁴¹

Health Canada reports that higher than optimal levels of fluorides consumed for a very long period of time may lead to skeletal fluorosis.⁴² Skeletal fluorosis is a progressive disease in which bones increase in density and become more brittle. In mild cases, the symptoms may include pain and stiff joints. In more severe cases, the symptoms may include difficulty in moving, deformed bones, and an increased risk of bone fractures.

WATER FLUORIDATION

In the 1930s, initial observations that people living in communities served by naturally fluoridated water had lower dental caries led to the prevention studies of the 1940s and 1950s that compared communities with fluoridated water to control communities with trace amounts of fluoride. The success of these studies led to the widespread adoption of community water fluoridation in the United States.⁴³

In Canada, there is a wide disparity in access to fluoridated water across different populations and geographical locations.

Although an estimated 40 per cent of Canadians are now exposed to fluoridated water,⁴⁴ less than 10 per cent of First Nations people living on reserves are exposed to fluoridated water.⁴⁵ There is also a great disparity between provinces regarding access to fluoridated water. For example, British Columbia has the lowest rate in Canada, at 6 per cent of the population, while 78 per cent of Alberta's population has access.⁴⁶ In the United States, about 145 million people or 62 per cent of the population served by public water supplies consume fluoridated water.⁴⁷

The American Dental Association estimates the cost of water fluoridation at 50 cents (US\$) per person per year in an average community.⁴⁸ Similar findings are reported in a 1992 study that estimates the cost at 31 cents (US\$) per person per year in communities in the United States with populations of more than 50,000, to a mean of \$2.12 (US\$) per person in communities with fewer than 10,000.⁴⁹ Health Canada reports that the costs for water fluoridation are approximately \$1 per person per year.⁵⁰ The CDC estimate the per capita cost savings from one year of fluoridation range from negligible amounts in low caries risk communities to \$53 (US\$) among communities with a high risk of caries.⁵¹

Nearly 100 national and international organizations and governments endorse the fluoridation of drinking water to prevent dental decay, including the Canadian Public Health Association, the Canadian Dental Association, the Canadian Medical Association, the World Health Organization, the Canadian Paediatric Society, the American Medical Association, the International Association for Dental Research, and the American Dental Association.^{52,53,54,55,56,57}

Statements from a number of organizations and government departments show unequivocal support for water fluoridation. The CDC state, "water fluoridation is one of the great public health achievements of the twentieth century, and it is a major factor responsible for the decline in dental caries during the second half of the 20th century."⁵⁸ The Canadian Dental Association expresses a similar sentiment with the following statement: "The appropriate use of fluorides in the prevention of dental caries is one of the most successful preventive health measures in the history of health care."⁵⁹ The United States Surgeon General's report of 2000, *Oral Health in America*, states "community water fluoridation is an effective safe public health measure that benefits individuals of all ages and socioeconomic strata."⁶⁰ Finally, Health Canada states "current scientific data indicate that communities with a dental decay rate (DMFT/deft rate) of 3.0 per six-year-old child would benefit from implementation of a community fluoridation system."⁶¹

Although this shows strong support primarily within Canada and the United States, internationally the picture is somewhat different. There are approximately as many countries advocating fluoridation to address dental caries as there are countries rejecting it. Water fluoridation proponents point out that water fluoridation is used not only in Canada and the United States but also in Australia, Brazil, Hong Kong, Malaysia, the United Kingdom (England, Scotland, and Northern Ireland), Singapore, Chile, New Zealand, Israel, Columbia, Costa Rica, South Africa, and Ireland.⁶² Water fluoridation opponents point out that 98 per cent of Western Europe has rejected water fluoridation, including Germany, France, Belgium, Luxembourg, Finland, Denmark, Norway, Sweden, the Netherlands, Austria, and the Czech Republic.⁶³

There are numerous domestic and international epidemiolog-

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1. Platt K, Moritis K, Johnson MR, Berg J, Dunn JR. Philips Oral Healthcare. *Am J Dent* 2002;15 (Special Issue):188-228. (versus Sonicare Advance)

2. Hope CK, Wilson M. University College London, Eastman Dental Institute. *Am J Dent* 2002;15(Special Issue):7B-11B. (in vitro study versus the other leading power toothbrush)

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ical studies verifying the efficacy of water fluoridation. The report *Oral Health in America* identifies a number of studies from the last five decades supporting the effectiveness of water fluoridation in preventing coronal and root caries in children and adults.⁶⁴ This report identifies two large reviews of fluoride research. The first review of 95 studies, conducted between 1945 and 1978, found that caries were reduced by 40 to 50 per cent for primary teeth, and 50 to 60 per cent for permanent teeth.⁶⁵ Studies in the United States, Australia, Britain, Canada, Ireland, and New Zealand also demonstrate the effectiveness of water fluoridation. These studies show reductions in dental caries range between 15 and 40 per cent in the fluoridated communities compared with the non-fluoridated.⁶⁶

The American Dental Association publishes a fluoridation facts information sheet highlighting the results of 113 water fluoridation studies in 23 countries. The most frequently reported decay reductions observed were 40 to 49 per cent for primary teeth and 50 to 59 per cent for permanent teeth.⁶⁷ This publication also mentions a second review of studies conducted from 1976 to 1987. Reduction rates in fluoridated communities were 30 to 60 per cent in the primary dentition, 20 to 40 per cent in the mixed dentition, and 15 to 35 per cent in the permanent dentition.⁶⁸

The following six studies examine the efficacy of water fluoridation and health benefits and risks. In September 2000, the NHS CRD published a meta-analysis of water fluoridation studies. The report used international studies including 45 before-and-after studies, 102 cross-sectional studies, 47 ecological studies, 13 cohort studies, and 7 case-control studies. The studies were rated for quality using a level A, B, and C hierarchy (see Appendix B). They suggest that water fluoridation does reduce caries in children and withdrawal of it from water supplies results in an increase in caries rates.⁶⁹ The report concludes that it is difficult to interpret from this data the degree to which water fluoridation works, since the studies were of moderate quality (level B), and of limited quantity.⁷⁰ In addition, early studies lacked appropriate analysis.⁷¹ Statistical research analysis has developed significantly over time, limiting the usefulness of the older results. In addition, in later studies the estimates of effects could be biased due to poor adjustment for the effects of potential confounding factors. The report also suggests water fluoridation reduces the differences in severity of tooth decay between classes among 5- and 12-year-old children. However, the report cautions that this topic needs further clarification, since the evidence was based on level C studies (see Appendix B).⁷²

The negative effects of fluoride were also examined. No link was found between water fluoridation and bone fractures or cancers; however, these studies were primarily low quality, level C (see Appendix B).⁷³ Overall, the NHS CRD report found a lack of high-quality research in the area of water fluoridation. In addition, because of the potential toxicity of very high doses of fluoride, the report called for research that measures total fluoride exposure including fluoride obtained through sources such as water, food, toothpaste, and gels.

Cohen and Locker arrive at conclusions similar to the NHS CRD report regarding the quality of fluoride research. Following a review of three studies from 1999 to 2000, they conclude that although current studies indicate that water fluoridation continues to be beneficial, the quality of the evidence is poor.⁷⁴ They also indicate, "studies of the benefits to

adults are largely absent, and there is little evidence that water fluoridation has reduced social inequalities in dental health."⁷⁵ Finally, they argue that, in the absence of high-quality evidence for the benefits of water fluoridation, advocating for water fluoridation could perhaps be considered immoral.⁷⁶

In 1999, Health Canada and Environment Canada conducted a meta-analysis of 50 international water fluoridation studies and concluded there is no consistent evidence of an association between the consumption of "fluoridated" drinking water and increased morbidity due to cancer.⁷⁷ However, since conclusions were based on ecological or geographical correlation studies, their limitations preclude them from providing conclusive evidence for or against an exposure-response relationship.⁷⁸

In 2001, the Centers for Disease Control (CDC) conducted a meta-analysis of the published research on community water fluoridation and found that the quality of evidence from the studies is rated at Grade II-1 (see Appendix A), defined as evidence obtained from one or more controlled clinical trials without randomization. It should be noted that it is not possible to design a randomized community water fluoridation clinical trial, which is rated as the highest-grade study, since the whole community is exposed to the fluoridated water. Although water fluoridation studies cannot receive a Grade 1 rating, the CDC report that research limitations are counterbalanced by broadly similar results from numerous well-conducted field studies with thousands of persons throughout the world.⁷⁹ In conclusion, the CDC recommend community water fluoridation for all populations and the strength of this recommendation is given a Grade A code, the highest code (see Appendix A).

Although the CDC support community water fluoridation, they also call for a re-evaluation of the method of determining optimal fluoride concentration of community drinking water, since the present method depends on the average maximum annual ambient air temperature and does not take into account the recent social and environmental changes that have occurred.⁸⁰ In addition, the CDC support additional research into consumption patterns of water, processed beverages, and processed foods.

In 1999, the federal and Ontario governments produced a joint report providing an update on the 1996 Federal-Provincial Subcommittee Report concerning fluoride in the water supply. This report reviews numerous studies, published between 1994 and 1999, on the risks and benefits of fluoridation and makes the following four significant conclusions.⁸¹ Although current studies of the effectiveness of water fluoridation have design weaknesses and methodological flaws, tooth decay is found to be less common in communities where there is fluoridation. However, "the magnitude of the effect is not large in absolute terms, is often not statistically significant and may not be of clinical significance." It also concludes, "Canadian studies do not provide systematic evidence that water fluoridation is effective in reducing decay in contemporary child populations." In addition, water fluoridation withdrawal studies do not suggest significant increases in dental caries.

This report makes the following additional conclusions and recommendations.⁸² There are inconsistent findings in relation to the contribution of fluoride to the treatment of osteoporosis. Fluoride toxicity cannot be achieved by drinking fluoridated water. Additional bone fracture research with bet-

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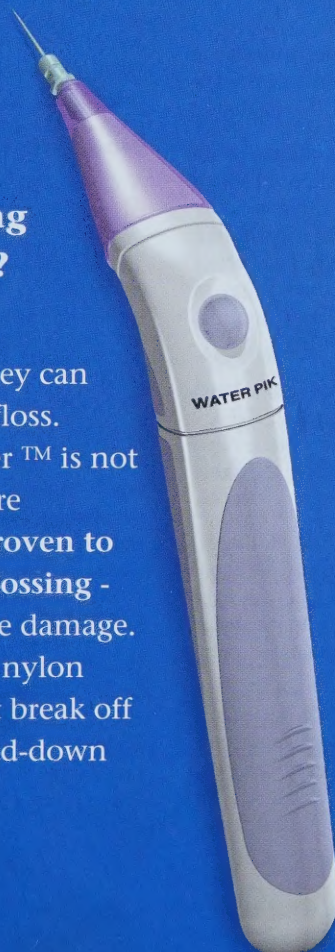


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ter designs is needed. There is no link between fluoridated water and cancer, lowered IQ level, and skeletal fluorosis. The main recommendation is that further research is needed to assess the balance between reductions in decay and increases in dental fluorosis. The report argues that more information is needed on the actual advantages to quality of life from fluoridation and that "the absence of this data undermines the credibility of water fluoridation as a public health initiative."

In 1999, Jones, Riley, Couper, and Dwyer conducted a qualitative overview of 18 population studies examining the association between water fluoridation and fracture risk at a population level. The overview concludes that water fluoridation both at levels aimed at preventing dental caries and, possibly, at higher naturally occurring levels appears to have little effect on fracture risk, either protective or deleterious.⁸³ However, the authors suggest that further research is required to confirm these findings in large studies on individuals, not just populations.

A number of studies suggest that due to the halo effect, the usefulness of water fluoridation alone is now difficult to determine since there are a number of other sources of fluoride. Lewis and Banting's 1994 study concludes that compared with early fluoridation studies, the differences in dental caries and fluorosis prevalence between fluoridated and non-fluoridated areas have narrowed markedly.⁸⁴ They recommend that, since water fluoridation has distribution, equity, compliance, and cost-effectiveness advantages, the other sources of fluoride should be examined for changes in fluoride content. A 2001 study arrives at similar conclusions: multiple sources of fluoride besides water fluoridation have made it more difficult to detect changes in the epidemiological profile of a population with generally low caries experience.⁸⁵

Water fluoridation opponents

The Fluoride Action Network, one of the largest organizations opposing water fluoridation, posted a web site article by Dr. P. Connett, "50 Reasons to Oppose Fluoridation."⁸⁶ Highlights of the arguments follow:

- The accumulation of fluoride, which is poisonous in high doses, is of concern for the following reasons: only 50 per cent of ingested fluoride is excreted through the kidneys;⁸⁷ it is impossible to control the amount of water ingested; intake varies widely from one individual to another; and there are many other sources of fluoride, including food, beverages, and dental products.
- Most Western European countries are not fluoridated and according to the World Health Organization's study on levels of tooth decay in Europe, United States, New Zealand, and Australia, they have experienced the same decline in dental decay as the United States.⁸⁸
- The largest survey conducted, by the United States' National Institute of Dental Research (now the National Institute of Dental and Craniofacial Research), with over 39,000 children, showed little difference in tooth decay among children in fluoridated and non-fluoridated communities.⁸⁹
- Three studies are cited showing that when water fluoridation has been discontinued in communities in Canada, Germany, Cuba, and Finland, dental decay has not increased, but decreased.^{90,91,92}

- Since fluoride's benefits are mainly topical, not systemic, it doesn't have to be swallowed to protect teeth and it makes more sense to deliver the fluoride directly to the tooth in the form of toothpaste.
- The United States' fluoridation program has failed to achieve one of its key objectives—to lower dental decay rates while minimizing dental fluorosis.
- Fluoride use is associated with chromosome damage, enzyme activity disruption in the area of DNA repair and the reproductive system, hormonal and neuro-chemical interference, bone cancer, increased susceptibility to hip fractures, and reduced thyroid gland activity.⁹³
- Despite evidence that fluorosis is increasing and we are exposed to far more fluoride in 2000 than we were in 1945 when fluoridation began, the optimal fluoridation level is still 1 part per million, the same level deemed optimal in 1945.⁹⁴
- Fluorosilicic acid is the chemical used for the fluoridation of drinking water in more than 90 per cent of the major cities in the United States.⁹⁵ This chemical is a toxic waste byproduct from the phosphate fertilizer industry and contains heavy metals such as arsenic, a known carcinogen, as well as lead and mercury.^{96,97}
- A study comparing different geographical areas in the United States found that the states with the highest percentage of their population using fluoridated water also had the highest percentage of edentulous elderly.⁹⁸ This means that fluoridation may not have protected against tooth loss, as intended. Limeback proposes two possible explanations for these results.⁹⁹ The first explanation is that the lead in fluorsilicic acid is deposited in the teeth and increases the risk for caries. A second explanation is that fluoridated water contributes to periodontal disease through a mechanism that has not yet been examined carefully.

Bioethics

A discussion of the use of water fluoridation would not be complete without a discussion of bioethics and how it relates to water fluoridation. Cohen and Locker explore this topic and conclude that an unresolved conflict exists between the principles of beneficence and autonomy.¹⁰⁰ Advocates of water fluoridation argue that water fluoridation promotes social equity since it benefits everyone, regardless of socioeconomic status. However, since it is impossible for individuals to opt out of water fluoridation, it takes away the freedom to choose. This violates the ethics principle of autonomy and may be regarded as "involuntary medication of populations."¹⁰¹ Dr. P. Connett also considers fluoridation unethical because individuals do not give their informed consent prior to medication.¹⁰²

FLUORIDE SUPPLEMENTATION

Fluoride supplements were initially introduced to provide fluoride to communities without water fluoridation. Unfortunately, these supplements were overprescribed¹⁰³ and a number of studies show a clear association between fluoride supplements and the risk of fluorosis.^{104,105} In response to this, recent changes in the dosage schedule were recom-

mended. Further evaluation over time will determine the results from these changes.

CDC's 2001 literature review on fluoride supplementation makes the following recommendations:¹⁰⁶

- Fluoride supplements are not recommended for pregnant women, since there is Grade I evidence of no benefit for their children.
- No specific recommendation is made for fluoride supplements for children younger than six years, since the research is significantly flawed.
- Fluoride supplements for high-risk children aged 6 to 16, in areas with fluoride-deficient drinking water, are supported by high-quality studies. The dosage requires consideration of other sources of fluoride including water (community fluoridated water and bottled water), toothpaste, or mouth rinse.

Health Canada makes the following recommendation for minimizing health risks in relation to fluoride supplements. No fluoride supplements should be given if fluoridated drinking water is consumed or if there is naturally occurring fluoride in the water supply.¹⁰⁷

The Canadian Dental Association (CDA) re-visited their protocol on fluoride supplements for the following reasons: investigators presented sound arguments for restricting the use of fluoride supplements in children, due to fluorosis;¹⁰⁸ Health Canada's Medical Services Branch does not recommend fluoride supplements;¹⁰⁹ and there is a worldwide trend to lower fluoride supplement dosages to minimize the risk of dental fluorosis.¹¹⁰ In March 2002, the CDA issued a new policy statement with the following significant changes.¹¹¹ First, fluoride supplementation is no longer recommended for children prior to the eruption of the first permanent tooth, since it will cause fluorosis of permanent teeth. Second, it cautions that levels of fluoride intake should be assessed prior to making a recommendation, given that exposure to more fluoride than is required can cause dental fluorosis. Chewable tablets/lozenges containing 1 mg fluoride are recommended for those at high risk for dental caries.

The CDA policy statement recommends that total daily fluoride intake from all sources should not exceed 0.05 to 0.07 mg F/kg body weight in order to minimize the risk of dental fluorosis.¹¹² Although CDA suggests assessing fluoride intake levels prior to recommending fluoride supplements, it explains there is difficulty establishing these levels. Swan confirms this difficulty and states, "this assessment may be unrealistic, given the widespread exposure to multiple sources of fluoride." He concludes that when a confident assessment is not possible, fluoride supplements should not be given.¹¹³

The United States Surgeon General's report supports dietary fluoride supplements for children in the absence of optimally fluoridated drinking water.¹¹⁴ The report includes the following fluoride supplement dosage schedule, which is also supported by the American Dental Association, the American Academy of Pediatric Dentistry, the American Academy of Pediatrics, the American Dietetic Association, and the Canadian Paediatric Society (Table 1).^{115,116,117}

Table 1. Dietary fluoride supplement dosage schedule

Age of child	Fluoride dosage (milligrams per day) at fluoride in water concentration of:		
	<0.3 ppm	0.3 to 0.6 ppm	>0.6 ppm
Birth to 6 months	None	None	None
6 months to 3 years	0.25	None	None
3 to 6 years	0.50	0.25	None
6 to 16 years	1.00	0.50	None

In 1997, the Canadian Consensus Conference on the appropriate use of fluoride supplements for the prevention of dental caries in children recommended the use of chewable tablets/lozenges containing 1 mg fluoride for those at high risk for dental caries and even this may be unnecessary if patients are receiving adequate fluoride from other sources.¹¹⁸ The Conference defined the term "high risk for dental caries" as those individuals who do not brush their teeth (or have them brushed) with a fluoridated dentifrice twice a day or those who are assessed as susceptible to high caries activity because of community or family history, etc.¹¹⁹

The Conference participants developed the following decision-making protocol and schedule for fluoride supplement usage.¹²⁰ The schedule differs somewhat from the above schedule, since it does not recommend any fluoride supplements for individuals consuming fluoridated water at a 0.3 to 0.6 ppm level.

First ask the following question: Does the child brush his or her teeth (or have teeth brushed by parent or guardian) using fluoridated toothpaste at least twice a day? If the answer is no, then supplemental topical fluoride exposure should be provided according to the table below. If the answer is yes, then ask this question: In your judgment, is the child susceptible to high dental caries activity?

If your answer is yes, then supplemental topical fluoride exposure should be provided according to Table 2.

Table 2. Dosage of daily fluoride supplement based on fluoride in water supply

Age of child	<0.3 ppm	0.3 to 0.6 ppm	>0.6 ppm
0 to 6 months	None	None	None
>6 months to 3 years	0.25 mg/day	None	None
>3 years to 6 years	0.50 mg/day	None	None
>6 years	1.00 mg/day	None	None

The Canadian Dental Association's concern for the link between fluoride supplements and fluorosis is voiced by a number of researchers. Some researchers also question the use of fluoride supplements, given the low quality of the efficacy research. Ismail and Bandekar reviewed 14 studies on fluoride supplements during the first six years of life, in non-fluoridated communities, and found a consistent and strong association between the use of fluoride supplements and dental fluorosis.¹²¹ B.A. Burt draws a similar conclusion when he states, "fluoride supplements should no longer be used for

young children.”¹²² He argues that the risks of fluorosis outweigh the benefits, fluoride prevents caries principally through post-eruptive effects or through topical action, and the quality of efficacy research on fluoride supplements is poor and does not meet the standard for acceptable clinical trials.¹²³ Riordan reiterates this concern regarding the quality of the research when he states, “there are very few scientifically good clinical trials of fluoride supplements, and those that may be considered methodologically adequate suggest that the contribution of fluoride supplements to caries prevention is slight.”¹²⁴ The low rate of effectiveness Riordan claims may be due to the fact that fluoride is much more widely available today than in the past. He also notes that compliance with fluoride supplement recommendations is generally poor over longer periods of time, making it a poor public health measure. Finally, Ismail also questions the need for fluoride supplements, given the availability of optimal levels of fluorides in beverages in non-fluoridated communities.¹²⁵

TOPICAL FLUORIDES

(varnishes, gels, foams, and rinses)

Clinical trials from the 1940s through the 1970s documented the benefits of professionally applied fluoride in reducing dental caries.^{126,127,128} The use of topical fluorides is now recognized as effective by several prominent oral health organizations, including the American Dental Association¹²⁹ and the Canadian Dental Association.^{130,131}

Gels and varnishes

Although the United States Food and Drug Administration (FDA) has not approved fluoride varnish for use as a caries-preventive agent since appropriate clinical trial evidence has not been submitted showing its effectiveness as an anti-caries agent, it has been used in Canada and Europe since the 1970s to prevent dental caries.¹³²

Five literature reviews supporting the use of gels and varnishes and recommendations for various application protocols are outlined below.

1. The CDC report high-quality evidence from five studies conducted between 1987 and 1996 in Canada and Europe that showed fluoride varnish is efficacious in preventing dental caries in high-risk children.¹³³ These studies show mixed evidence regarding the application protocols, with some claiming semi-annually is best, others four times per year, and others reporting that three applications in one week, once per year, are most effective.¹³⁴
2. In 2001, the Ontario Community Dental Health Services Research Unit reviewed 25 studies on fluoride solutions, gels, and varnishes. The review was carried out initially since pit and fissure caries account for between 74 to 77 per cent of all caries lesions in children. However, professionally applied topical fluoride (PATF) is more effective against smooth surface caries than against pit and fissure caries.¹³⁵ Recommendations are as follows (see Appendix A for information on the grading system):¹³⁶
 - Children with one or more decayed surfaces should receive PATF (Grade I, Code B).
 - PATF should be provided on a biannual basis (Grade I; Code A).
 - When considering caries prevention efficacy, both acidulated phosphate fluoride (APF) gel and fluoride varnish are recommended (Grade I; Code A); however, APF gel is preferred to fluoride varnish (Grade I; Code B).
3. A review of fluoride varnish studies conducted between 1984 and 1991 showed no benefit from annual application; 23 per cent caries reduction rate with applications four times per year; and 46 to 67 per cent caries reduction rate with three applications in one week, once per year.¹³⁷
4. A meta-analysis of eight randomized clinical trials with children using Duraphat varnish showed similar findings, with a 38 per cent reduction in the decayed, missing, or filled surfaces or DMFS index.¹³⁸ The quality of the evidence is considered Grade I, the highest possible level of evidence (see Appendix A). The study also indicates that fluoride varnish may be a better choice for young children, since it is less likely than gel to be swallowed.¹³⁹
5. Four studies conducted between 1985 and 1991, using semi-annual treatments of four minutes in duration with fluoride gel and foam, caused an average decrease of 26 per cent in caries rates in the permanent teeth of children residing in non-fluoridated areas.¹⁴⁰ The American Dental Association also recommends semi-annual use.¹⁴¹

There are several studies providing support for the efficacy of PATF with a low pH level. A study by Cruz and Rolla shows that acidulated topical fluoride (2 per cent NaF solutions) with a pH of 3.5 was almost twice as effective in depositing calcium fluoride compared with acidulated topical fluoride with a pH of 5.5.¹⁴² Similar results are reported in two other research studies by Rolla and Saxegaard¹⁴³ and Ogaard¹⁴⁴ who conclude that increased deposition of calcium fluoride can be obtained with a decrease in pH fluoride solution. A third study, which manipulated pH levels in sodium monofluorophosphate, found that by adjusting the pH to 4.0, an optimal reduction of enamel solubility was obtained.¹⁴⁵ Support for the pH 4.0 level is also found in four other studies that demonstrate its enhanced ability to produce fluoride uptake and anti-caries effectiveness.^{146,147,148,149} Studies examining pH above 4.0 indicate that it compromises the enamel uptake of fluorides.^{150,151}

Acidulated phosphate fluoride (APF) is not recommended for all types of teeth, as it can damage porcelain and composite restorations by causing dulling or etching.^{152,153,154,155} It is also not recommended for those with reduced salivary flow or for those who cannot tolerate acidic fluorides (e.g., clients with bulimia).¹⁵⁶ In these cases, a neutral sodium fluoride solution, gel, or foam is recommended.

In contrast to the above findings, the following two studies indicate additional research may be needed on fluoride varnish and gels. In 2001, Bader, Shugars, and Bonito conducted a literature review of 27 studies and concluded that not enough is known to determine the efficacy of topical fluorides.¹⁵⁷ In addition, a 1998 meta-analysis of clinical studies on the caries-inhibiting effect of fluoride gel treatment in 6- to 15-year-old children concluded that from the standpoint of cost-effectiveness, the additional effect of fluoride gel treat-

ment in current low and even moderate caries incidence child populations must be questioned.¹⁵⁸

In clinical practice, it is common to apply fluoride gel for one minute¹⁵⁹ and scientific evidence for the efficacy of this practice is found in one *in vitro* study using APF solutions.¹⁶⁰ However, the Centers for Disease Control report that, as of August 2001, the efficacy of this shorter time period has not been tested in human clinical trials.¹⁶¹

The CDC report that fluoride gel can be used with children under six years, since its infrequent application results in little risk for dental fluorosis and proper application technique reduces the possibility of clients swallowing the gel during application.¹⁶² In addition, no published evidence indicates that professionally applied fluoride varnish is a risk factor for enamel fluorosis, even among children younger than six years.¹⁶³

One literature review examined the appropriate conditions for topical fluoride application in periodontal therapy. It shows that the use of fluoride applications should be restricted to maintenance recall visits rather than at scaling, root planing, and surgical visits.¹⁶⁴ In particular, it recommends that fluoride should be avoided during root preparation in open-flap surgery, since fluoride may damage the healing ability of the periodontal tissues.

Rinses

The following two studies point to the efficacy of self-applied fluoride rinses. The U.S. Surgeon General's report of 2000 indicates that 13 randomized controlled clinical trials were conducted between 1974 and 1998 on school-based fluoride mouth rinse programs for children in grades one and up. These trials found that caries reduction ranged from 20 to 50 per cent, firmly establishing the efficacy of 0.2 per cent solutions.¹⁶⁵ Although these programs were successful, the U.S. Surgeon General suggests they should now target only students at high risk for caries, since a declining prevalence of dental caries would reduce the cost-effectiveness of these programs. A CDC review of the literature also provides support for the use of rinses with high-risk populations.¹⁶⁶ The evidence quality was Grade 1, the highest rating and the strength of the recommendation was Code A, the strongest recommendation (see Appendix A).

In contrast to the above findings, a large National Preventive Dentistry Demonstration Program conducted in 10 cities in the United States from 1976 to 1981 questions the success of fluoride rinse programs. Fluoride mouth rinse was found to have little effect among schoolchildren, either among first-grade students with high and low caries rates or among all second- and fifth-grade students.^{167,168}

The appropriate age for the introduction of rinses in children is explored in the following research. Although there are no studies of enamel fluorosis associated with the use of fluoride mouth rinses, there is a study showing that children aged three to five might swallow substantial amounts of fluoride mouth rinse.¹⁶⁹ Horowitz and Horowitz also raise concern that inadvertent swallowing of the fluoride rinse can cause acute fluoride toxicity in a child.¹⁷⁰ The fact that children younger than six are not at risk for enamel fluorosis suggests that fluoride mouth rinse may be appropriate for children older than six. A statement from Health Canada supports this starting age: "Children under six years of age should never be

given fluoridated mouthwash or mouth rinses, as they may swallow it."¹⁷¹

DENTIFRICES

A Canadian Dental Association (CDA) Patient Information Sheet on Fluoride and Dentistry, dated 2001, states that fluoridated toothpastes are given continued recognition and support for their contribution to cavity prevention.¹⁷² Dr. Hardy Limeback also supports fluoridated toothpaste when he states "the major reasons for the general decline of tooth decay worldwide, both in non-fluoridated and fluoridated areas, is the widespread use of fluoridated toothpaste, improved diets, and overall improved general and dental health."¹⁷³

The CDC recommend the use of fluoride toothpaste, based on evidence from a review of 10 studies, each two to three years in duration, conducted from 1959 to 1996.¹⁷⁴ The review concludes that fluoride toothpaste reduces caries among children by a median of 15 to 30 per cent.¹⁷⁵ Although this reduction is modest compared with the effect found in some water fluoridation studies, the research was high-quality, Grade 1, Code A (see Appendix A).

Although the literature shows support for fluoridated dentifrice, it also suggests that the use of fluoride toothpaste by young children is a risk factor in fluorosis. The following are highlights of the reports indicating a connection between fluoride toothpaste use by young children and fluorosis.

- Three studies note the risk of fluorosis is higher if fluoride toothpaste is used in children younger than three years of age.^{176,177,178}
- A 1997 study of infants 6, 9, and 12 months old shows that fluoride dentifrice use among infants can be a risk factor for dental fluorosis.¹⁷⁹
- A 1997 study of 325 children concludes that toothpaste swallowing might be a factor in the production of fluorosis.¹⁸⁰
- H.S. Horowitz draws our attention to several studies indicating that preschool-aged children inadvertently ingest sizable proportions of toothpaste during tooth brushing and that the findings of at least four studies support the dentifrice-fluorosis connection in young children.¹⁸¹
- A CDC review of eight studies, conducted between 1988 and 1998, found that children who begin using fluoride toothpaste below the age of two are at higher risk for enamel fluorosis than children who begin later or who do not use fluoride toothpaste at all.¹⁸² This may be due to a swallowing reflex in this age group, particularly in children younger than three, that is less well controlled compared with children over the age of six.^{183,184}
- Four studies showed a link between the use of fluoride toothpaste and dental fluorosis.¹⁸⁵ It should be noted that these studies suggest the risk of dental fluorosis from toothpaste is not as high as from fluoride supplements.
- Two studies indicate that the amount of fluoridated toothpaste ingested by young children may cause them to intake more than the upper limit established by the CDA, of 0.05 to 0.07 mg fluoride/kg body weight. For example, the CDC reviewed five studies¹⁸⁶ indicating that

children aged younger than six can inadvertently swallow as much as 0.8g of fluoride (800 mg). A similar concern is expressed by Burt who reports that children aged six months to three years who live in fluoridated areas and swallow some toothpaste once per day take in approximately 0.06 to 0.08 milligrams per kilo per day.¹⁸⁷

There are a number of different methods currently employed for addressing the established link between ingested toothpaste and fluorosis. The United States Food and Drug Administration (FDA) responds by having toothpaste labelling requirements that direct parents of children younger than two to seek advice from a dentist or physician before using the toothpaste. The FDA also requires the following poison control label on fluoridated toothpaste: "If you accidentally swallow more than used for brushing, seek professional help or contact a poison control centre immediately."¹⁸⁸ However, the American Dental Association objects to this label requirement and feel that the following labelling on all ADA-accepted toothpaste is adequate warning: "Do not swallow. Use only a pea-sized amount for children under six. To prevent swallowing, children under six years of age should be supervised in the use of toothpaste."¹⁸⁹

The Canadian Paediatric Society (CPS) suggests children should limit the amount of toothpaste used per brushing. They also suggest manufacturers including a warning about the dangers of excessive toothpaste use and sell tubes that make it more difficult to place excessive amounts of dentifrice on a toothbrush.¹⁹⁰ The CDA recommends children use only a small amount of toothpaste (the size of a pea) and avoid swallowing.¹⁹¹ Similarly, the CDC recommends that children under age six should use only a pea-sized amount of fluoride toothpaste (0.25 g) and parents should consult their physician or oral health care practitioner concerning the use of fluoride under the age of two.¹⁹² Health Canada recommends that children use no more than a pea-sized amount of toothpaste and be instructed not to swallow toothpaste. They also suggest that children under six years of age should be supervised while brushing, and children under the age of three should have their teeth brushed by an adult without using any toothpaste.¹⁹³

Some researchers suggest that there may be benefits in developing child-strength toothpaste with lower fluoride concentrations, similar to those found in other countries including Australia and New Zealand.^{194,195} The following study provides evidence that a slightly reduced concentration of fluoridated dentifrice shows no decreased efficacy. A three-year study in this area was conducted using a double-blind trial with more than 3,000 two-year-old children. Results from this study showed that toothpaste with 550 ppm fluoride had anticaries efficacy similar to that of the control toothpaste containing 1055 ppm fluoride.¹⁹⁶ The evidence of the efficacy of dentifrice with lower levels of fluoride prompted the CDC to agree that there may be benefits in a child-strength dentifrice.¹⁹⁷ H.S. Horowitz also calls for the production and marketing of fluoride toothpastes with 400–500 ppm fluoride for preschool-aged children, who are still at risk for developing fluorosis.¹⁹⁸ Similarly, a study of toothpaste use among 350 children, from birth to age four, concludes that a reduced fluoride concentration in toothpaste would contribute significantly to reducing the prevalence of fluorosis.¹⁹⁹

CONCLUSIONS

Over 50 years of extensive research worldwide has consistently demonstrated the efficacy of fluoride in preventing dental decay. As a result, numerous scientific bodies, oral health organizations, and government bodies have accepted the use of fluoride.

An understanding of fluoride's mechanism of action has changed over time, from a belief that its beneficial effect was related to its systemic function, to an understanding of its primary topical action. This understanding is important in the use of fluoride as a disease prevention and oral health promotion measure, since it confirms that topical application of fluoride is of central importance in preventing dental decay.

Today, although there has been a decline in dental caries, "the burden of disease is still considerable in all age groups."²⁰⁰ It is vital that fluoride remains available to address this situation. There are, however, a number of challenges to the continued use of fluoride both as a public health measure and for individual use, including the issue of its safety.

Water fluoridation

Since fluoride was first added to drinking water in the 1940s and 1950s, it has undergone scientific inquiry. Although some studies question the efficacy of water fluoridation, the balance of the evidence indicates that tooth decay is less common in communities with water fluoridation and the overwhelming majority of the health and scientific communities consider water fluoridation beneficial. The low cost for water fluoridation, combined with the estimated cost savings, make it a useful, cost-effective public health initiative.

The research indicates that reductions in dental caries ranged widely between 30 to 50 per cent in primary teeth and 15 to 60 per cent in permanent teeth in the fluoridated compared with the non-fluoridated communities. There is mixed evidence regarding the ability of water fluoridation to decrease the social inequities in dental health. While older research on fluoridated versus non-fluoridated communities shows a high level of caries reduction, the more recent studies show a lower caries reduction rate, likely due to the halo effect and increased use of fluoridated dental products. Research on communities where fluoride is withdrawn shows contradictory evidence. Some studies show an increase and others a decrease. One of the confounding factors in these studies may be the halo effect that is now making it difficult to properly assess the effects of water fluoridation.

There are several drawbacks to the efficacy research. Three of the large studies—by the NHS CRD, by Cohen and Locker, and the joint report by the federal and Ontario governments—indicate that the quality of the research is poor. The CDC are the only location to identify higher quality Grade II-1 research. Although the Surgeon General's report does not identify the quality of the research, most of the research quoted is from 1945 to 1978, which suggests it is likely lacking in modern statistical methods of analysis. This concern for the quality of research warrants a call for further high-quality fluoride efficacy research.

There appears to be an increase in fluorosis in both fluoridated and non-fluoridated communities, with fluorosis rates at approximately 20 to 75 per cent in the former and 12 to 45 per cent in the latter. The evidence of the halo effect, the studies on total fluoride intake, the increased availability of fluo-

ridated dental products, and the link between fluoridated infant formula and fluorosis highlights the complexity of fluoride ingestion. There are two ways in which this evidence can be addressed while ensuring that both dental caries and fluorosis are reduced. First, an improved method is needed for determining the optimal fluoride concentration in community drinking water, which takes into account other sources of fluoride from air, food, and dental products. Second, parents should be instructed not to provide infants past the age of 12 months with formula made with fluoridated water.

Although fluoride opponents quote research showing fluoride is associated with a number of negative health effects, the balance of the evidence shows there is no link with health risks such as acute toxicity, skeletal fluorosis, and bone fractures. However, both the Health Canada and Environment Canada, and the NHS CRD reports indicated that the cancer research was limited, making it difficult to draw any definitive conclusions.

There is some evidence that the fluoride used in the United States public water systems may contain heavy metals. Although no research was found on the toxic content of the fluoride used in Canadian water systems, this information should be made available to the Canadian public.

Fluoride supplements

A decision to use fluoride supplements should take into consideration the concern for fluorosis resulting from inappropriate use of fluoride supplements, as well as the evidence showing that the predominant cariostatic effect of fluoride is topical and that its effectiveness is not as clearly documented as other delivery systems. In addition, prior to a specific course of fluoride supplements, there should be an assessment of all sources of fluoride.

The literature reports a number of different dosage schedules for fluoride supplements. Due to a recent report of increased risk of fluorosis, it may warrant implementing the CDA's and CDC's recommendations for no supplements prior to the eruption of the first permanent tooth, at approximately six years of age. For all other high caries risk individuals, it may be prudent to use the more conservative schedule proposed at the Canadian Consensus Conference on the appropriate use of fluoride supplements, since it is more conservative compared with the Surgeon General's schedule.

Topical fluorides

Although some controversy surrounds fluoride application protocols, the majority of the evidence shows that PATF use has a significant positive impact on the oral health of individuals who are at high risk for dental caries. PATF with a pH of 3.1 to 4.0 appears to be favoured in the literature with a neutral pH recommended for porcelain and composite restorations, clients with reduced salivary flow and those who cannot tolerate acidic fluorides, such as clients with mucositis, stomatitis, eating disorders, or gastroesophageal reflux disorders. Professionally applied topical fluorides may be used, following an individualized caries and oral health risk assessment. There is mixed evidence around the choice of varnish or gel for young children; however, rinses are clearly not recommended for children under six years of age. In addition, there is not enough clinical research to support a one-minute over a four-minute exposure time.

Fluoride dentifrice

There is a wide range of well-controlled studies on fluoride dentifrices and almost all of these demonstrate considerable reductions in dental decay. One drawback to the use of fluoride dentifrice is the risk of fluorosis for young children, due to a less well-controlled swallowing reflex. This warrants the development of better methods for addressing the fluorosis risk; one of these methods may include the development of low-concentration fluoride dentifrices.

CANADIAN DENTAL HYGIENISTS ASSOCIATION POSITION STATEMENTS ON FLUORIDE

The following fluoride position statements of the Canadian Dental Hygienists Association were approved by the CDHA Board of Directors on October 26, 2002.

- The use of fluoride is an important oral health promotion and disease prevention approach.
- Water fluoridation should be maintained and extended to additional communities where feasible. Infants past the age of 12 months should not consume formula made with fluoridated water. Fluoridation research is needed in:
 - ♦ Developing an improved method for determining the optimal fluoride concentration in community drinking water, which takes into account other sources of fluoride from air, food, and dental products;
 - ♦ High-quality water fluoridation efficacy studies;
 - ♦ Developing recommendations for caries prevention and control using various combinations of fluoride modalities.
- CDHA advocates clean and toxin-free sources of fluoride for use in products and water supplies. Information should be made available to the public on the sources and quality of fluoride used in oral health products and water supplies.
- Fluoride supplements should be used in non-fluoridated areas, with high-risk children. Children under the age of six should not receive supplements and children older than six years of age should receive 1.00 mg/day, based on a water supply that is fluoridated at a level of less than 0.3 ppm. No supplement should be given to children in areas with water fluoridated at 0.3 ppm or greater. The dosage schedule should take into account the level of fluoride in the drinking water and exposure to other sources of fluoride, such as dental products.
- Professionally applied topical fluorides with a pH level of 3.1 to 4.0 should be used for high-risk clients, following an individualized caries and oral health risk assessment. PATFs with a neutral pH are recommended for clients with porcelain and composite restorations, those with reduced salivary flow, and clients who cannot tolerate acidic fluorides, such as clients with mucositis, stomatitis, eating disorders, or gastroesophageal reflux disorders. Safety and risk management procedures should be used to minimize ingestion and maximize tooth uptake of PATF.

"THE FLUORIDE DIALOGUE" ... continued on page 224

Assurance contre les maladies graves

La sécurité au moment où vous en avez le plus besoin

Certes, vous avez intérêt à souscrire une assurance-vie pour protéger votre famille contre les conséquences financières que pourrait entraîner votre décès soudain et une assurance invalidité pour protéger votre revenu. Mais ne devriez-vous pas envisager de vous protéger également contre les conséquences que pourrait avoir une maladie grave sur votre vie?

L'Association Canadienne des Hygiénistes Dentaires croit fermement en la nécessité de faire bénéficier ses membres d'un programme d'assurance complet. C'est pourquoi, dans le cadre de son programme d'assurance, elle met à la disposition de ses membres et de leur conjoint¹ une assurance contre les maladies graves garantie par la Sun Life du Canada, compagnie d'assurance-vie.

Les risques de contracter une maladie grave sont importants. Pensez aux personnes que vous connaissez, patients, collègues, amis ou membres de votre famille, chez qui on a diagnostiqué un cancer ou la sclérose en plaques ou qui ont souffert d'une crise cardiaque ou d'un accident vasculaire cérébral. Grâce à une meilleure qualité de vie et aux progrès accomplis en médecine, les chances de survie augmentent, mais survivre à une grave maladie peut coûter très cher.

LES STATISTIQUES SONT ÉLOQUENTES :

- En 2001, environ 134 000 nouveaux cas de cancer ont été enregistrés au Canada².
- Entre 40 000 et 50 000 personnes sont victimes d'un accident vasculaire cérébral chaque année au Canada; 85 % d'entre elles y survivent et 75 % restent atteintes d'une incapacité³.
- Environ 75 000 personnes sont victimes d'une crise cardiaque chaque année au Canada et plus de 80 % de celles qui sont hospitalisées survivent à leur maladie³.

Une maladie grave peut occasionner des besoins urgents de capitaux substantiels pour couvrir des dépenses exceptionnelles. Il est suffisamment difficile de lutter contre la maladie pour ne pas avoir à s'embarrasser de problèmes financiers. L'assurance contre les maladies graves de l'ACHD est conçue pour vous aider à assurer votre indépendance sur le plan financier et vous permettre de vous concentrer sur l'essentiel : votre rétablissement.

QU'EST-CE QUE L'ASSURANCE CONTRE LES MALADIES GRAVES?

L'assurance contre les maladies graves garantit le versement d'un capital s'il est établi par un diagnostic que vous souffrez de l'une des maladies couvertes par la garantie, y compris les cas d'infection par le VIH dans l'exercice de la profession, et si vous demeurez en vie durant toute la période qui a été déterminée relativement à la maladie diagnostiquée.

QUELS SONT LES RISQUES COUVERTS PAR L'ASSURANCE CONTRE LES MALADIES GRAVES?

L'assurance contre les maladies graves de l'ACHD couvre les risques suivants :

- Crise cardiaque
- Accident vasculaire cérébral
- Pontage aortocoronaire
- Maladie d'Alzheimer
- Sclérose en plaques

- Cancer mettant la vie en danger
- Insuffisance rénale
- Tumeur cérébrale bénigne
- Infections par le VIH dans l'exercice de la profession
- Coma
- Cécité
- Transplantation d'organe majeur
- Surdit 
- Perte de l'usage de la parole
- D ficiency d'organe majeur n cessitant une transplantation
- Br lures s v res
- Paralyse
- Maladie de Parkinson

Vous trouverez dans la brochure sur l'assurance contre les maladies graves des d finitions plus d taill es des maladies couvertes par ce type d'assurance.

LA PROTECTION QUE L'ASSURANCE-VIE ET L'ASSURANCE INVALIDIT  N'OFFRENT PAS

L'assurance-vie garantit le versement d'un capital en cas de d c s. L'assurance invalidit  vous assure, pendant un certain temps, un revenu qui remplace une partie de celui que vous perdez lorsque vous  tes incapable de travailler par suite d'une maladie ou d'une blessure. Cependant, les prestations d'invalidit  ne permettent pas toujours de r gler les frais tr s  lev s qu'une maladie grave peut occasionner. L'assurance frais m dicaux rembourse uniquement les frais engag s pour des raisons m dicales. L'assurance contre les maladies graves vient en compl ment de ces couvertures. Elle vous procure un capital qui vous est vers  m me si vous vous r tablissez et si vous recommencez   travailler. Ce capital peut servir   r gler les frais de votre choix, que vous les engagiez ou non pour des raisons m dicales. Vous pouvez utiliser comme vous l'entendez cette somme qui vous est r gl e en un seul versement. Le capital peut permettre :

- de rembourser un pr t hypoth caire,
- de b n ficier d'un traitement m dical particulier,
- de payer les travaux de r fection de la maison,
- de prendre un cong  en vue de r cup rer,
- ou de r gler des frais m dicaux que l'assurance frais m dicaux ne couvre pas.

Il importe de noter que l'assurance contre les maladies graves peut int resser les personnes   toutes les  tapes de la vie :

- **Les c libataires** tiennent   leur ind pendance. Ils ne voudraient pas  tre   la charge de leurs proches s'ils  taient atteints d'une maladie grave; il se peut aussi qu'ils n'aient pas de parents qui puissent les aider.
- **Les jeunes couples** veulent s'assurer que, au cas o  ils seraient atteints d'une maladie grave entra nant des frais importants qui leur ferait perdre leur revenu et mettrait leur  pargne en p ril, ils pourront continuer   rembourser leur pr t hypoth caire. Ils veulent s'assurer  galement qu'ils disposeront des liquidit s n cessaires pour couvrir les frais engag s pour l'entretien m nager et la garde des enfants.
- **Les chefs de famille** ne veulent pas avoir   utiliser les fonds pr vus pour les  tudes sup rieures des enfants ni  puiser les  conomies accumul es leur vie durant pour couvrir les frais r sultant d'une maladie grave.

Pour obtenir plus de renseignements sur cette assurance ou pour vous procurer un formulaire de proposition, veuillez communiquer sans frais avec la Sun Life du Canada, compagnie d'assurance-vie en composant le num ro **1 800 669-7921** (  Toronto, composez le **416 408-7390**).

1 Vous ou votre conjoint devez avoir moins de 60 ans pour  tre admissible   la garantie.

2 Institut national du cancer du Canada, Statistiques canadiennes sur le cancer 2001, Toronto, Canada, 2001.

3 Fondation des maladies du c ur du Canada, 2002.

Critical Illness Insurance...

Security when you need it most.

Purchasing a life insurance policy to protect your family against the financial consequences of your untimely death and disability insurance to protect your income makes good sense. Shouldn't you also consider protecting yourself in the event of your survival following a critical illness?

The Canadian Dental Hygienists Association believes strongly in the value of a comprehensive insurance program. That's why we've made Critical Illness insurance available to our members and their spouses¹ under our insurance program. This coverage is provided through Sun Life Assurance Company of Canada.

The likelihood of contracting a critical illness is high. Think about the people you know — patients, colleagues, friends or family who have been diagnosed with cancer or multiple sclerosis or have suffered a heart attack or stroke. Improved lifestyles and advances in medical science have increased the chances of survival. But survival can be expensive.

THE STATISTICS SPEAK FOR THEMSELVES...

- In 2001, approximately 134,000 new cases of cancer occurred in Canada.²
- Each year, there are 40,000 to 50,000 strokes in Canada. 85% of stroke sufferers survive; 75% recover with a disability or impairment.³
- An estimated 75,000 heart attacks occur in Canada each year. Over 80% of heart attack patients admitted to hospital survive.³

When a critical illness strikes, there can be an immediate and urgent need for a large infusion of cash to cover extraordinary expenses. Dealing with the impact of a critical illness is difficult enough; the last thing you want to worry about is money. The CDHA's Critical Illness insurance coverage is designed to help give you financial independence so you can concentrate fully on what matters most — your recovery.

WHAT IS CRITICAL ILLNESS INSURANCE?

Critical Illness insurance pays a lump sum benefit amount if you are diagnosed with a covered condition, including Occupational HIV infections, and you survive for a specified continuous period dependent on the diagnosis.

WHAT CRITICAL ILLNESS CONDITIONS ARE COVERED?

The CDHA's Critical Illness plan provides coverage for the following conditions:

- | | |
|--------------------------|---------------------------|
| • Heart attack | • Multiple Sclerosis |
| • Stroke | • Life-threatening cancer |
| • Coronary artery bypass | • Kidney failure |
| • Alzheimer's | • Benign brain tumour |

- | | |
|-------------------------------|--|
| • Occupational HIV infections | • Loss of speech |
| • Coma | • Major organ failure requiring transplant |
| • Blindness | • Major burns |
| • Major organ transplant | • Paralysis |
| • Deafness | • Parkinson's |

More complete definitions of illness eligibility can be found in the product brochure.

FILLING THE GAP BETWEEN LIFE AND DISABILITY INSURANCE...

Life insurance is payable when you die. Disability insurance is payable over a period of time after you have suffered a disability or injury that prevents you from working and replaces only a percentage of your lost income. Disability benefits may not, however, provide enough money to pay for some of the massive costs associated with a critical illness. And, medical insurance only pays for medically related expenses. Critical Illness insurance complements these coverages, providing a lump sum payment even if you recover or you are able to work again and whether or not your expenses are of a medical nature. You have the freedom to use the lump sum benefit payment on anything you want:

- mortgage payments;
- alternative treatment;
- home alterations;
- a holiday to recuperate;
- medical expenses not covered by a health plan.

It's important to keep in mind that Critical Illness insurance can appeal to people in all stages of life:

- **Single people:** since they are used to an independent lifestyle, they will not want to become a burden on their families should they be struck with a debilitating illness or may not have family around to help.
- **Young couples:** will want to ensure mortgages are taken care of if a costly illness causes them to lose their income and threatens their savings. They will want to ensure they have the funds to ensure that housekeeping and childcare responsibilities are taken care of.
- **Mature families:** will not want to give up their plans for their children's higher education or deplete their life savings to cover the costs arising from a serious illness.

For more information or to get an application, contact Sun Life Assurance Company of Canada toll free at

1 800 669-7921 (in Toronto call **416-480-7390**). Information on the insurance program and other member services will be available on CDHA's web site in the coming months.

¹ To be eligible, you or your spouse must be under age 60.

² National Cancer Institute of Canada: Canadian Cancer Statistics 2001, Toronto, Canada, 2001.

³ Heart and Stroke Foundation of Canada, 2002.

- Self-applied fluoride rinses are not recommended for children under six years of age.
- Fluoride dentifrice should be used widely, at least twice each day. Children younger than six years of age should be supervised and use only a thin smear of fluoridated dentifrice. Better methods should be developed for addressing the connection between ingested dentifrice by young children and fluorosis, including the development of low-concentration fluoride dentifrice for young children.

APPENDIX A: DEFINITIONS

Coding system used to classify recommendations for use of specific fluoride modalities to control dental caries:

- A. Good evidence to support the use of the modality
- B. Fair evidence to support the use of the modality
- C. Lack of evidence to develop a specific recommendation (i.e., the modality has not been adequately tested) or mixed evidence (i.e., some studies support the use of the modality and some oppose it)
- D. Fair evidence to reject the use of the modality
- E. Good evidence to reject the use of the modality

Grading system used to determine the quality of evidence for a fluoride modality:

- I. Evidence obtained from one or more properly conducted randomized controlled trials (i.e., one using concurrent controls, double-blind design, placebos, valid and reliable measurements, and well-controlled study protocols)
- II-1. Evidence obtained from one or more controlled trials without randomization (i.e., one using systematic subject selection, some type of concurrent controls, valid and reliable measurements, and well-controlled study protocols)
- II-2. Evidence from one or more well-designed cohort or case-control analytic studies, preferably from more than one center or research group
- II-3. Evidence obtained from cross-sectional comparisons between times and places; studies with historical controls; or dramatic results in uncontrolled experiments (e.g., the results of the introduction of penicillin treatment in the 1940s)
- III. Opinions of respected authorities on the basis of clinical experience, descriptive studies, or reports of expert committees

Source: United States Preventive Services Task Force: Guide to clinical preventive services. 2nd ed. Alexandria, VA: International Medical Publishing, 1996

APPENDIX B: QUALITY CRITERIA

Level A (highest quality of evidence, minimal bias)

- Prospective studies that started within one year of either initiation or discontinuation of water fluoridation and

have a follow-up of at least two years for positive effects and at least five years for negative effects.

- Studies either randomized or address at least three possible confounding factors and adjust for these in the analysis where appropriate.
- Studies where fluoridation status of participants is unknown to those assessing outcomes.

Level B (evidence of moderate quality, moderate risk of bias)

- Studies that started within three years of the initiation or discontinuation of water fluoridation, with a prospective follow-up for outcomes.
- Studies that measured and adjusted for less than three but at least one confounding factor.
- Studies in which fluoridation status of participants was known to those assessing primary outcomes, but other provisions were made to prevent measurement bias.

Level C (lowest quality of evidence, high risk of bias)

- Studies of other designs (e.g., cross-sectional), prospective or retrospective, using concurrent or historical controls that meet other inclusion criteria.
- Studies that failed to adjust for confounding factors.
- Studies that did not prevent measurement bias.

Studies meeting two of the three criteria for a given evidence level were assigned the next level down. For example, if a study met the criteria for prospective design and blinding for Level A but was neither randomized nor controlled for three or more potential confounding factors, it was assigned Level B. Evidence rated below Level B was not considered in our assessment of positive effects. However, this restricted assessment of the evidence for Objective 3, so the best level of evidence relevant to this objective (from any study design) was included. In our assessment of possible negative effects, all levels of evidence were considered. Adjustment for confounding factors required analysis of data; simply stating that two study groups were similar on noted confounding factors was not considered adequate.

Source: McDonagh, M., Whiting, P., Bradley, M., Cooper, J., Sutton, A., Chestnutt, I., Misso, K., Wilson, P., Treasure, E., Kleijnen, J.: A systematic review of public water fluoridation [on-line]. NHS Centre for Reviews and Dissemination, University of York, September 2000. [Cited on May 12, 2002.] < www.york.ac.uk/inst/crd/fluorid.pdf >

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Barriers of access, education and socio-economic inequities still face dental hygienists across our country who try to provide preventive and therapeutic oral health care outside the traditional settings. In addition, the existing legal, insurance, and service-delivery model (the traditional dental practice) is making it virtually impossible to effect change and reform within the Canadian oral health care sector. Even back in 1986, Singer et al.¹ reported in the *Journal of Public Health Dentistry* that dental hygienists in non-traditional work environments are a valuable part of the health care team and that part of this stems from the fact that dental hygienists derive a high degree of job satisfaction in non-traditional employment settings.

If the evidence states that dental hygiene therapies can improve our quality of life, and dental hygienists are willing to engage, and capable of engaging, in collaborative models

of health care, then why do Canadians have restricted choice in this sector of health care?

Provincial and national dental hygiene associations are working diligently to reduce the existing legal and insurance barriers so the parameters of the oral health care system can be reconstructed to meet the needs of those Canadians who are underutilizing preventative and promotive oral health services. Dentistry's focus is on restorative dentistry. Dental hygiene's focus is on prevention and promotion. Both are equally valuable for sustainable oral health. The evidence is clear. Now, with the collaborative efforts of governments, dentistry, and dental hygiene, we just have to put it into practice.

Karen Wolf, DipDH, <president@cdha.ca> 

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"LA MISE EN PRATIQUE" (suite de la page 203)

étude récente du Dr. Pran Manga, les Canadiens qui ont le plus besoin des services d'un hygiéniste dentaire sont précisément ceux qui sous-utilisent les services de soins dentaires en général. Ces Canadiens comprennent les aînés, les pauvres qui travaillent, la population autochtone, et ceux qui vivent dans des institutions (par ex., les établissements de soins de longue durée). Si la preuve nous soutient en tant que professionnelles des soins de santé buccale, pourquoi donc tant de Canadiens sont encore ignorants de la valeur d'une bouche saine ou sont incapables de choisir leur pourvoyeur de soins ?

Cette question a peu de réponses, mais la principale raison est encore le problème de l'accès. Il y a un vieux proverbe qui dit : "Si ce n'est pas cassé, pas besoin de le réparer !" Hé bien, l'image des soins de santé buccale n'est peut-être pas cassée, mais elle ferait sûrement bon usage d'un peu d'attention. Selon le Dr Manga, une des raisons pour lesquelles les gouvernements n'ont pas examiné sérieusement l'image des soins de santé buccale des Canadiens, c'est qu'on perçoit le système de soins de santé buccale comme un mécanisme qui a performé raisonnablement bien. Mais l'ACHD, pour sa part, n'est pas satisfaite de la définition que donnent les gouvernements de l'expression "raisonnablement bien". Les obstacles à l'accès, les inégalités touchant l'éducation et la vie socio-économique font encore obstruction aux hygiénistes dentaires de tous les coins du pays qui essaient de dispenser des soins de santé buccale préventifs et thérapeutiques à l'extérieur des milieux traditionnels de pratique. En plus, le modèle actuel des lois, de l'assurance et de la prestation des services (la pratique dentaire traditionnelle) rend pratiquement nulle la possibilité d'effectuer des changements et des réformes au sein du secteur canadien des soins de santé buccale. Même si on remonte à 1986, Singer et al.¹ rapportaient dans le *Journal of Public Health Dentistry* que les hygiénistes dentaires travaillant dans des milieux de travail non traditionnels étaient une partie valable de l'équipe de soins dentaires et que cela provenait du fait que les hygiénistes dentaires trouvaient un degré élevé de satisfaction dans des milieux de pratique non traditionnels.

« Les Canadiens qui ont le plus besoin des services d'un hygiéniste dentaire sont précisément ceux qui sous-utilisent les services de soins dentaires en général. »

Si la preuve établit que les thérapies d'hygiène dentaire peuvent améliorer notre qualité de vie, et si les hygiénistes dentaires veulent bien s'engager, et qu'elles en sont capables, dans des modèles coopératifs de soins de santé, pourquoi donc les Canadiens ont-ils restreint le choix dans ce secteur des soins de santé ?

Les associations provinciales et nationale d'hygiénistes dentaires travaillent diligemment à réduire les obstacles juridiques et les restrictions des régimes d'assurance de sorte que les paramètres du système de soins de santé buccale puissent être reconstruits de façon à répondre aux besoins des Canadiens qui sous-utilisent les services préventifs et promotionnels de santé buccale. Les dentistes concentrent leur attention sur la dentisterie restauratrice. L'hygiène dentaire concentre son activité sur la prévention et la promotion. Les deux approches sont également valables dans le cadre d'une santé buccale renouvelable. La preuve est claire. Maintenant, avec les efforts de coopération des gouvernements, des dentistes et des hygiénistes dentaires, il nous faut simplement passer à la mise en pratique.

Karen Wolf, dip. HD, <president@cdha.ca> 

1. Singer, J.L., Cohen, L., LaBelle, A.: Dental hygienists in nontraditional settings: practice and patient characteristics. *J Public Health Dent* 46(2): pp. 86-95, 1986

ABSTRACTS FROM IADR'S JOURNAL OF DENTAL RESEARCH

The International Association of Dental Research (IADR) held its 80th general session on March 6-9, 2002, in San Diego. This annual meeting includes presentation of almost 2,000 new abstracts in all dental disciplines. Many of these well-conducted and original abstracts will develop into full papers. The abstracts themselves are published in a special issue of the IADR's *Journal of Dental Research*. The CDHA has been granted permission to re-print a selection of these abstracts in *Probe* (scientific issue).

FLUORIDE

3542 FLUORIDE UPTAKE INTO ENAMEL FROM HIGH FLUORIDE PROFESSIONAL TREATMENTS

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In-office application of high fluoride treatments in trays is a popular method of preventing dental caries. **Objective:** A study was undertaken to determine the amount of fluoride taken up by enamel from two commercially used gels and a new foam at two treatment time intervals. **Methods:** The test method performed was similar to FDA Method #40 with the exception of using treatment times of four minutes and one minute which are traditionally used in the dental office. The test products were: (A) an aerosol APF foam, Colgate Fluorofoam, (B) an APF gel, Oral B Minute Gel and (C) a neutral gel, Perfect Choice-Neutral Gel. Products A and B contained 1.2% F (pH ~3.5) and product C contained 0.9% F (pH ~7.0). **Results:** After four (4) minutes, the fluoride uptake showed A(4) = 13545 + 646, B(4) = 7969 + 348 and C(4) = 4302 + 399 ppm F. After one (1) minute, the fluoride uptake was A(1) = 8363 + 313, B(1) = 6404 + 301 and C(1) = 1443 + 49 ppm F. Statistical analysis showed within each time point A > B > C and overall A(4) > A(1) = B(4) > B(1) > C(4) > C(1) (p < 0.05, SNK). **Conclusions:** The results demonstrate that Colgate Fluorofoam had significantly greater fluoride uptake into enamel at both time points than the APF and neutral fluoride gels. The fluoride uptake at 1 minute from Colgate Fluorofoam was equal to the fluoride uptake at 4 minutes from the APF gel.

FLUORIDE

2787 RISK OF DENTAL FLUOROSIS ASSOCIATED TO CONSUMPTION OF INFANT FORMULAS

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Prevalence of dental fluorosis has increased in both optimally fluoridated and non-fluoridated areas. In infancy the major source of fluoride (F) is considered to be infant formulas and a number of studies have implicated formula consumption as a risk factor for dental fluorosis, especially when prepared with fluoridated water. **Objectives:** Estimate F intake from infant milk formulas. **Methods:** F concentrations in 4 samples of infant milk and soy-based formulas commercially available in USA, prepared with deionized water or 5 brands of bottled water were determined after HMDS-facilitated diffusion, in duplicate, using a F ion specific electrode (Orion 9609). Possible F ingestion per kg body mass was estimated, based on suggested volumes of formula consumption, for infants aged 1 and 12 months. **Results:** F concentrations ranged from 0.076 to 0.214 ppm and from 0.092 to 1.053 ppm for formulas prepared with deionized and bottled water (0.016 to 0.839 ppm F), respectively. When prepared with deionized water, none of the formulas should provide a daily F intake of above the suggested threshold for fluorosis (0.07 mg F/kg/day). However, when prepared with 2 brands of bottled water (containing 0.623 and 0.839 ppm F), all of them should provide it. **Conclusions:** To limit F intakes to amounts < 0.07 mg/kg/day, it's necessary to avoid use of fluoridated water to dilute infant formulas.

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FLUORIDE

3546 SALIVARY FLUORIDE LEVELS FOLLOWING FLUORIDE VARNISH OR FLUORIDE RINSE

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Elevated fluoride (F) in whole saliva (>0.04 ppm) is related to lower risk of caries progression. **Objective:** to compare F release into whole saliva over time by F varnish (Duraflor, Pharmascience, 5% NaF) versus F rinse (ACT, Johnson & Johnson, 0.05% NaF). **Methods:** This two-period, two-treatment cross-over study randomly assigned 16 adults to 1 of 2 sequences: F rinse, then F varnish or the reverse order. A two-week washout period was observed between treatments. Rinsing was with 10 ml of F rinse for 30 s. Varnish was applied once to facial and lingual surfaces of 20 teeth. Stimulated whole saliva was collected at baseline, then at 5, 10, 15, 60 min, and 2, 4, 8, 12, 24, 32, 48, 56, 72, 80, 96, 104 h after treatment. Taves (1968) microdiffusion method analyzed saliva F content. **Results:** Salivary F was at mean peak levels ($\pm$ standard error) for rinse (3.2 $\pm$ 0.8 ppm) and varnish (24.5 $\pm$ 4.9 ppm) 5 minutes after application. F for the rinse returned to baseline in <4 h and for the varnish in <24 h. Within-person log10 (maximum F) (p < 0.01) was significantly greater for varnish than rinse using linear models. No carry-over effects (p = 0.76) were observed. No treatment difference in F concentration between baseline and 104 h (p = 0.17) was seen. **Conclusions:** F varnish treatment significantly (p < 0.01) increased whole salivary F above that with F rinse and for a longer duration. Support: A.R. Medicom, Inc.

PATHOLOGY

1035 THE ASSOCIATION BETWEEN VIADENT® USE AND ORAL LEUKOPLAKIA - RESULTS OF A MATCHED CASE CONTROL STUDY

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Several oral pathologists have described oral leukoplakia of the maxillary vestibule in patients with no traditional risk factors for the condition, but who reported use of Viadent® mouth rinse or toothpaste. A hypothesis was developed that Viadent® or a component of Viadent® caused the lesions. **Objectives:** To further evaluate the association between oral leukoplakia and use of Viadent® products using a matched case control study design. **Methods:** Cases were fifty-eight patients diagnosed with oral leukoplakia identified through the biopsy service at The Ohio State University, College of Dentistry, Oral Pathology Section. The matched control was a friend or relative of the case. Cases and controls were administered a questionnaire about their use of Viadent®, and other known risk factors for leukoplakia such as tobacco and excessive alcohol use. **Results:** An age difference was seen between cases and controls, the cases being older (p < 0.001). After controlling for confounding factors, results of exact conditional logistic regression analyses showed that use of Viadent® products was a risk indicator for oral leukoplakia (OR = 10.0, 95% CI 2.0 - 89.2). **Conclusions:** Viadent® use is a risk indicator for oral leukoplakia, confirming our previous results. Funding support obtained through the American Cancer Society, Ohio Division, Inc.

ORAL HYGIENE

2314 EFFECT OF FOOD PRODUCTS IN REDUCING ORAL MALODOR

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Approximately 70% of adults concerned with their own oral malodour take foods such as chewing gum in an attempt to control the condition temporarily. **Objective:** The objective of this study was to compare the effect of foods, such as green tea products, mint, a parsley oil product and chewing gum on oral malodour as assessed by gas chromatographic (GC) determination of H_2S and CH_3SH . **Methods:** All products were examined on the same 15 subjects on different days. The effect of the food products on in vitro VSC production was determined using a salivary putrefaction system. Deodorant activity of the food products was evaluated by the reduction of the H_2S in the head-space during incubation. **Results:** All the products did not demonstrate statistically significant effects on the VSC levels in the mouth air at immediately after use, 1, 2, and 3 hours after ingestion, however, a green tea product dramatically reduced methyl mercaptan concentration immediately after use by 59% (ANOVA, $P < 0.05$), whereas some products actually increased VSC concentration. Green tea, mint, and toothpaste significantly suppressed VSC production in 24-hour saliva putrefaction test (ANOVA, $P < 0.05$). Furthermore, the deodorant activity of the green tea product was significantly higher than other food products (ANOVA, Tukey test, $P < 0.05$). **Conclusion:** The green tea product is a promising approach to gentle treatment in controlling oral malodour.

ORAL HYGIENE

2321 PLAQUE REMOVAL EFFICACY OF A NOVEL TOOTHBRUSH DESIGN

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Objectives: The purpose of this study was to compare the plaque removal efficacy of a novel design tooth brush (Colgate Palmolive - India ZIG-ZAG Flexible Tooth-Brush) to a regular manual tooth Brush. **Methods:** An examiner-blinded, randomized, two cell study was conducted with 60 healthy adults. Subjects meeting entrance criteria were screened for plaque (Pre brushing Plaque Scores) using the Rustogi Modification of the Navy Plaque Index (RMNPI). Subjects with an RMNPI of greater than 0.5 following 18-24 hours of no oral hygiene were enrolled into the study. The subjects were randomized into one of two treatment sequence groups and brushed unsupervised for one minute with their assigned toothbrush. After brushing, subjects were disclosed again and re-evaluated for plaque (Post Brushing Plaque Index). Treatment comparisons were evaluated by ANOVA on the change from pre to post brushing scores and ANCOVA on the post-brushing scores with the pre-brushing scores serving as the covariate. **Results:** Under the clinical conditions of the study, Colgate Zig Zag flexible toothbrush performed significantly better than regular manual toothbrush for the Mean plaque index whole mouth by 24%, gingival margin by 17% and interproximal by 35%. Colgate Zig Zag Flexible toothbrush was significantly better than regular manual toothbrush in removal of plaque from all sites ($P < 0.01$). **Conclusion:** Colgate Zig Zag Flexible toothbrush was significantly more effective in removing plaque than regular manual toothbrush.

ORAL HYGIENE

2866 ANTIPLAQUE/ANTINGIVITIS EFFICACY OF AN ESSENTIAL OIL MOUTHRINSE VS FLOSSING

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Introduction: This six-month clinical study was conducted to compare the efficacy of an essential oil-containing (EO) antiseptic mouthrinse to daily flossing on inhibition of plaque and gingivitis development. **Method:** 297 subjects completed a randomized, examiner-blind, parallel, controlled clinical study. Following a complete dental prophylaxis, healthy adults with mild to moderate levels of supragingival plaque and gingivitis were randomized into their respective treatment groups. Subjects were instructed to brush with the provided fluoride dentifrice and toothbrush, and either rinse for 30 seconds twice daily with 20 ml of their assigned EO or control rinse, or floss once daily with the provided waxed dental floss. All subjects received written home care instructions. To maximize compliance, subjects in the flossing cell were provided a flossing demonstration by a dental professional and had to demonstrate correct flossing technique at baseline. All subjects were monitored monthly for compliance with their assigned regimen. If a subject was still non-compliant after a successive compliance check they were dropped from the study. The primary efficacy variables were interproximal gingivitis (MGI) and plaque (PI) indices at six months. **Result:** The EO mouthrinse was statistically significantly better than control rinse for whole mouth plaque and gingivitis scores ($p < 0.001$) consistent with previously reported 6-month studies. Compared to the control rinse, interproximal MGI was reduced by 7.8% and 8.2% ($p < 0.001$), bleeding (BI) by 81.3% and 83.5% ($p < 0.001$), and PI by 37.5% ($p < 0.001$) and 2.1% ($p = 0.305$) for the EO antiseptic rinse and flossing groups, respectively, after 6 months. The EO rinse was equivalent to flossing for interproximal MGI (95% CI [-2.7%, 1.8%]), better for PI (36.2%, $p < 0.001$) and not different for BI ($p = 0.832$). **Conclusion:** These results demonstrate that an essential oil mouthrinse is 'at least as good' as flossing in reducing gingival inflammation at interproximal sites.

ORAL HYGIENE

2155 ANTICALCULUS EFFICACY OF A CHEWING-GUM CONTAINING PYROPHOSPHATE: A SIX-WEEK STUDY

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Objectives: A six-week, double blind, cross-over clinical study was conducted to compare the effect of a chewing-gum containing pyrophosphate (1%) and tripolyphosphate (1%) and a placebo chewing-gum on supragingival calculus deposits. **Methods:** Twenty-eight adult subjects who entered the study were given an oral prophylaxis and were assigned to use, two pieces four times a day, either pyrophosphate chewing-gum or a placebo chewing-gum for a period of six weeks. They also received a supply for twelve weeks of a sodium fluoride (0.32%) toothpaste (Colgate®). They were then scored for calculus deposits using the Volpe-Manhold Calculus Index (VMI) by the same two operators and giving a media of observations, received a second oral prophylaxis and used the alternate chewing-gum for a second six-week period of time. The subjects were again scored for calculus deposits and the study was completed. **Results:** Volpe-Manhold calculus index media was in pyrophosphate group 3.65 (variance 7.96) and in placebo group 4.24 (variance 10.54). This reduction was significant with paired sample t-test ($p < 0.001$). **Conclusions:** The results indicated that chewing-gum containing pyrophosphate and tripolyphosphate reduced supragingival calculus formation by 13.9%, as compared to the placebo chewing-gum and this reduction was significant with paired sample t-test according with other research related to the use of toothpastes containing pyrophosphate. This research was supported by Perfetti S.p.A.

ORAL HYGIENE

0844 ANALYSIS OF PATIENTS' CONSUMPTION PROFILE OF ORAL RINSE SOLUTIONS

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Objectives: The aim of the present study was to describe the reported patients' consumption profile of mouthrinses and the factors that influence their choice. **Methods:** In a first approach, 150 patients were interviewed with respect of their consumption profile of mouthrinses and the reasons related to it. Secondly, these patients were offered 5 commercially available mouthrinses of similar size and color on their normal bottles to choose (SOL1 - containing chlorhexidine, SOL2 - containing cetilpiridinium chloride, SOL3 - containing essential oils, SOL4 - containing herbal components and fluoride and SOL5 - containing herbal components and tioritricin. After the choice, the reasons for it were also inquired. **Results:** 54.7% of the patients never use a mouthrinse, whilst 5.3% use it regularly. The reported main properties of mouthrinses were to treat halitosis and prevent oral diseases (44.7%), to treat gingival inflammation (39.3%) and to better clean the teeth (38.7%). The main reported reasons to choose a mouthrinse were dentist's prescription (68%), price (29.3%) and medical properties (16%). The choice revealed a statistically significant difference between the oral solutions (Friedman, $p < .05$), being cetilpiridinium chloride solution (SOL2) the most chosen (41.3%), followed by SOL3 (22.7%), SOL5 (15.3%), SOL1 (10.7%) and SOL4 (10%). The order of presentation of the solutions did not influence the results. The most reported reasons for this choice were: most known, brand and advertisement (42.6%). **Conclusion:** Although the use of oral rinse solutions is known by the patients to have medical properties and that the dentist should be the one helping to choose them, when it comes to the practical situation, the advertisement aspects have more impact on the patients' choice for a mouthrinse.

ORAL HYGIENE

2856 IN VITRO EVALUATION OF ANTIMICROBIAL POTENTIAL OF TEN HERB-BASED DENTIFRICES

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Objective: To evaluate the antimicrobial activity of 10 herb-based dentifrices in *S. mutans*, *S. sanguis*, *A. viscosus* and *C. albicans* using the diffusion method. **Methods:** Ten herb-based dentifrices manufactured in Australia (1), China (2), Japan (1), South Korea (2) and United States (4) were examined for their antimicrobial potential as is and at 1:1 dilution with sterile Milli-Q pyrogen-free water. Colgate Total toothpaste was used as the positive control while the solvent served as the negative control. In addition, Crest Cavity Protection was included as non-herbal, regular toothpaste for comparison purpose. A filter disk (Millipore, Bedford, MA) with test material was placed on the agar surface inoculated with the microbial culture. The plates were incubated at 37°C, and the diameter of the inhibitory zone was measured at 24 and 48 hours. The experiment was conducted in triplicate. The data were analyzed using the ANOVA if the variances were determined to be homogeneous by the Box's method; where the variances were not homogeneous, the Welch test was used. The Student-Newman-Keuls method was used to determine the significance of differences among the means. **Results:** The results showed that the positive control, Colgate Total, produced significant sizes of inhibitory zones in all four microbes, while no inhibitory effect was observed in the negative controls. All 10 herb-based dentifrices showed significant antimicrobial activity on *S. mutans*, *S. sanguis* and *A. viscosus*. However, inhibitory effect on *C. albicans* was observed in only five dentifrices, and the effect was significantly lower than the positive control. At 1:1 dilution, no inhibitory zones were detected in *C. albicans* by any of the 10 herbal-based dentifrices. **Conclusion:** The 10 herb-based dentifrices are effective in inhibiting the growth of *S. mutans*, *S. sanguis* and *A. viscosus* but have little effect on *C. albicans*.

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PERIODONTOLOGY

0841 SUBANTIMICROBIAL DOSE DOXYCYCLINE ENHANCES SCALING AND ROOT PLANING

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Objectives: Previous studies have shown that subantimicrobial dose doxycycline (SDD) is of clinical benefit in the treatment of chronic periodontitis (CP). The aim of this study was to further assess the role of SDD as an adjunct to scaling and root planing (SRP) in the treatment of patients with moderate-severe CP. **Methods:** A double-blind, randomized, placebo-controlled, clinical trial was conducted to test the efficacy of SDD (20mg doxycycline BID) in combination with SRP in patients with CP. 210 patients, aged 30-75 years, with evidence of CP manifested by baseline clinical attachment levels (CAL) and probing depths (PD) 5mm to 9mm in at least 2 tooth sites in each of 2 qualifying quadrants (QQ) were enrolled. At baseline, patients were treated by a standardized episode of SRP, and randomized to receive either adjunctive SDD or placebo. CAL and PD at tooth sites in the QQ were measured using the manual UNC-15 periodontal probe at 3, 6, and 9 months post-baseline to assess the response to treatment. Tooth sites were stratified by baseline PD value: sites with PD 4-6mm were considered mild-moderately diseased and sites with PD ≥ 7 mm severely diseased. Treatment group comparisons of per-patient mean CAL changes in the QQ were performed using appropriate analysis of variance models. **Results:** SRP + placebo resulted in CAL gains similar to those reported previously in the literature. At month 9, SRP + SDD resulted in significantly greater CAL gains and PD reductions relative to baseline than SRP + placebo in all tooth site categories:

	Baseline PD	SRP + SDD	SRP + Placebo	P
CAL gain (mm)	4-6mm	1.27	0.94	<0.001
	≥ 7 mm	2.09	1.59	<0.05
PD reduction (mm)	4-6mm	1.29	0.96	<0.001
	≥ 7 mm	2.31	1.77	<0.01

Conclusions: This study confirms that SDD used as an adjunct to SRP provides significant benefit for CP patients compared to SRP alone.

PERIODONTOLOGY

0247 EFFICACY OF LOCALLY DELIVERED ANTIMICROBIAL AGENTS

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Objectives: For the treatment of periodontal disease using locally delivered antimicrobial agents we determined: 1. The volume of high-level clinical evidence cited in MEDLINE, and 2. The efficacy of locally delivered antimicrobial agents available in the U.S. **Methods:** 1. A search strategy was developed and implemented in MEDLINE to identify randomized controlled trials, reported in English, done on humans, of locally delivered antimicrobial agents used to treat periodontal disease. 2. The FDA pivotal studies were analyzed to determine the number of teeth that need to be treated (NNT) with local therapy (experimental), when compared to scaling alone (control), for one experimental tooth to obtain a probing depth reduction of ≥ 2 mm. **Results:** 1. The search strategy identified 165 articles, of which 52 of the fit the inclusion criteria: 15 for Actisite, 11 for PerioChip, 5 for Arrestin, 5 for Atridox, and 16 for Elyzole. 2. The NNT, from most to least effective, and clinical trial characteristics from the FDA pivotal studies were:

Brand	Drug	Study Length (m)	# S&RP	# Drug Placements	NNT
Actisite	Tetracycline	6	1	1	5
PerioChip	Chlorhexidine	9	1	3	10
Arrestin	Minocycline	9	1	3	16
Atridox	Doxycycline	9	0	2	100

Conclusion: This analysis suggests that at ≤ 9 months, and compared to scaling alone, tetracycline + scaling was most effective in reducing pocket depth as evaluated by NNT. It also required the fewest visits. Assessments of attachment level and study length are currently being examined.

2306 PLAQUE REMOVAL IN THE FURCATION AREA USING DIFFERENT INSTRUMENTS - AN IN VITRO STUDY

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One of the most difficult surfaces for plaque removal is the furcation area. Previous studies have indicated that ultrasonic scalers may be very effective in the furcation area. The objectives of the study were to compare the effectiveness of a magnetostrictive (MS) ultra sonic scaler (Cavitron-SPS®, FSI-slimline insert left/right, Dentsply, Konstanz, Germany) and a piezoelectric (PE) ultra sonic scaler (Suprasson®, Periosoft-carbon insert PB2L/PB2R, Satelec-Pierre Rolland, Mettmann, Germany). **Methods:** With each instrument 50 plastic lower first molars (Frasaco, Tettnang Germany) were treated in the model of a mannikin. For the simulation of plaque the furcation of the teeth was coated with black acrylic lacquer onto which green indicator spray was applied. The lingual and buccal part of the furcation were treated for 1.5 minutes each. After separation of the furcation in three parts, digital pictures were taken and analyzed with an image software. **Results:** The percentage of remaining plaque for mesial, roof and distal surfaces was in the MA-group: 3.2, 2.5, 1.7 and in the PE-group: 1.3, 1.7, 1.1 respectively. For mesial surfaces the difference was statistically significant ($p < 0.05$). The percentage of intact black lacquer layer was an indicator of the aggressiveness of the treatment. The mesial, roof and distal values (%) were for MS: 88.9, 94.7, 76.3 and for PE: 90.6, 93.9, 93.2. For distal furcation surfaces the aggressiveness of treatment with MS was statistically significant higher, than with PE. **Conclusions:** It could be concluded, that under clinically comparable conditions the plaque removal in the furcation area is equally effective with both type of inserts, but carbon-inserts are less aggressive than metal inserts.

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HIV/AIDS

3754 THE RISK OF HIV TRANSMISSION FROM PUNCTURE INJURY

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Among health care workers, dental professionals use small, sharp instruments more frequently in clinical practice and thus are more prone to puncture accidents. This study was designed to identify the risk of HIV transmission from an accidental puncture with a contaminated dental instrument by estimating the maximum volume of blood that may enter the body through the percutaneous wound. The study included 22 different dental instruments with the possibility of an accidental puncture injury, which were divided into two groups; 11 types of cutting instruments such as a scalpel and 11 types of puncture instruments such as an injection needle. Mettler H 20, a precision balance with a detection limit of 0.1µg, was used to weigh each instrument as well as the amount (g) of blood adherent to the instrument, which was multiplied by 1.052, the specific gravity of the blood, to determine the volume (cc). Estimated volumes of blood entering the body during puncture injury averaged 1.3389µl for the cutting instruments and 0.1780µl for the puncture instruments, the latter showing a significantly lower value ($p = 0.02 < 0.05$). These results suggest that the injection needle and other puncture instruments, which are associated with a higher incidence of puncture injury, introduce only a small amount of blood into the body in the event of a puncture accident, thus presenting quite a low risk of HIV transmission.

PERIODONTOLOGY

3006 COMPARATIVE STUDY OF TWO ULTRASONIC INSTRUMENTS IN THE REMOVAL OF SUBGINGIVAL PLAQUE

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In the therapy of adult periodontitis good oral hygiene and the removal of subgingival plaque and calculus are important, as is the disruption of the subgingival microbial flora. **Objective:** The aim of this study was to test the effectiveness of two ultrasonic systems (Cavitron® Jet SPS TM, Dentsply deTrey; Vector®, Dürr Dental) in patients, who were in compliance with oral hygiene instruction. **Method:** The patients selected were without systemic disease, severe periodontal disease, or long-term drug consumption. The following clinical treatment was performed in a split mouth technique: 137 periodontia units were treated with the Vector® system and 133 periodontia units were cleaned with the Cavitron® system. The clinical parameters plaque accumulation (API), bleeding index (SBI), and probing depths were determined at baseline and 6 months after ultrasonic treatment. **Results:** For both ultrasonic instruments there was a significant reduction of API (baseline $46.4 \pm 16\%$, 6 month later: $21 \pm 6\%$) but the difference between the two instruments was not statistically significant. Also the SBI value was significantly (and about equally) reduced by both systems (baseline $45 \pm 15\%$, 6 months later $12.7 \pm 6.5\%$). The mean probing depth at baseline was $3.1 (\pm 0.6)$ mm, and after 6 months mean measurements were determined after Vector treatment of $2.7 (\pm 0.2)$ mm, and after Cavitron treatment of $2.6 (\pm 0.3)$ mm. **Conclusion:** These reductions of probing depth were statistically significant, but there was no statistically significant difference between the two systems. Both the Cavitron® Jet SPS TM and the Vector® instruments are helpful in the removal of subgingival plaque, in the reduction of probing depths, and in reducing signs of inflammation. However there were no statistically significant differences between the two ultrasonic systems.

HIV/AIDS

1747 DETECTION OF KAPOSI'S ASSOCIATED HERPESVIRUS IN THE ORAL CAVITY OF IMMUNOCOMPETENT AND IMMUNOSUPPRESSED INDIVIDUALS

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The human Herpesviruses are generally shed in the oral cavity and transmission occurs via salivary route. These agents are generally detected with high prevalence in the general population with elevated viral loads during immunosuppression and occasional development of virus associated oral disease. The high frequency of Kaposi's Sarcoma (KS) in HIV infected homosexual men has lead to the thinking that Kaposi's Sarcoma associated Herpesvirus (KSHV/ HHV8) is sexually transmitted. Current serological tests for KSHV do not demonstrate superior sensitivity and specificity for detection of viral antigens in the blood and have determined that the seroprevalence within the US general population is 1-2 percent. **Objective:** To determine whether KSHV replicates in tissues of the oropharynx of immunocompetent, HIV-negative, Kaposi's Sarcoma-negative heterosexual individuals and may be transmitted via saliva. **Methods:** Throat washings, peripheral blood and buccal scrapings were obtained from 30 HIV-positive and HIV-negative patients. DNA was isolated and PCR performed with KSHV specific primers within 4 distinct regions of the KSHV genome: ORF 26, K1, K9 and K15. PCR products were transferred by Southern blot and hybridized with internal probes and were purified and sequenced bidirectionally. Phylogenetic analysis compared viral strain variation within this population to viral sequences from KS lesions. Immunofluorescence determined expression of KSHV specific protein in oral epithelia. **Results:** In 80% of healthy individuals KSHV specific DNA was consistently detected within throat washings. Cluster analysis determined that the viral strains harbored within the oral cavity were similar to those detected in KS lesions. LANA immunofluorescence, detected consistent nuclear expression of the latent KSHV protein in the majority of buccal epithelial cell specimens assayed. **Conclusions:** These data suggest that non-sexual transmission of KSHV is operating within the immunocompetent US population and that saliva is a potential source of KSHV spread in the general population.

INFECTION CONTROL

3627 DISINFECTION OF IMPRESSION MATERIALS: AN EVALUATION OF PRODUCTS AND PROCEDURES

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Purpose: The purpose of this study was to evaluate the antimicrobial properties of 6 commercially available disinfectants and their efficacy for bacterial removal from dental impression materials. **Methods:** Using Dentaforms and three impression materials (Impregum, Jeltrate Plus and Affinis), quadrant dental impressions were taken (n=780). The impressions were then contaminated with human saliva for 5 minutes, and disinfected by either a spray or immersion technique using the following disinfectants: Birex, Cavicide, Biocide, Cidex Plus, Sanitex Plus and ProEz. The impressions were allowed to sit at room temperature for 2, 5, 7, 10, 15, 30, 60 or 120 minutes and then rinsed with tap water for 1, 5, 7, 10, or 30 minutes. Samples were taken from each impression with sterile cotton applicators and plated on blood agar plates and incubated at 35°C for 24, 48, or 72 hours. At the end of the incubation period, colony counts were taken with a Bel-Art Colony Counter to determine the efficacy of the various solutions and protocols used to remove the contamination introduced by human saliva. **Results:** The protocol for both spray and immersion techniques demonstrated that the Jeltrate Plus, because of its added antimicrobial properties, showed no growth after contamination. Significant growth was determined (colony counts > 100) for Impregum and Affinis after being disinfected with several of the tested products. Impregum and Affinis showed limited growth (colony counts < 100) with the disinfectant Cidex Plus and Sanitex Plus for both the spray and immersion techniques. **Conclusion:** Under the test conditions, Jeltrate Plus was the only impression material that showed no growth in both techniques and with all disinfectant products. Impregum showed the best results with the immersion technique using Cidex Plus and Sanitex Plus. Affinis proved to be best disinfected with Cidex Plus and Sanitex Plus in both the spray and immersion techniques.

INFECTION CONTROL

3641 DETECTION OF INFECTION PATTERN IN DENTAL CLINIC

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Objectives: To investigate the cross contamination in dental clinic, *Staphylococcus aureus* (*S. aureus*), the pathogen in acute pyogenic infection and one of the important microbes causing nosocomial infection, was isolated from the mouth and anterior nares of healthy personnel and patients and the air in dental clinic. **Methods:** The isolation rate of *S. aureus* and methicillin resistant *S. aureus* (MRSA) was investigated. The patterns of antibiotic susceptibility of the isolated staphylococci were examined, and *mecA* gene from the microbe of MRSA and methicillin resistant coagulase negative staphylococci (MRCNS) was detected by polymerase chain reaction (PCR). **Results:** 108 strains of *S. aureus* were isolated and 20 strains of them were identified as MRSA. The isolation rate of *S. aureus* was the highest in the mouth of dentists (29.4%) and the lowest in the air of dental clinic (1.3%). In the study of PCR, MRSA, MRCNS and some methicillin susceptible staphylococci had *mecA* positive gene. The nucleotide sequence of PCR products showed high homology with *S. aureus mecA* (93.0%) and *femA* (99.0%), and the deduced amino acid sequence was identical to the methicillin resistant *mecA* subunit of *S. aureus*. **Conclusions:** These results suggest that staphylococci in a dental environment may be one of the important causes of nosocomial infection in dental clinic.

INFECTION CONTROL

0711 OZONE, AN EFFECTIVE TREATMENT FOR DENTAL UNIT WATER LINES

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Ozone (O₃) has been used for purification of water due to its efficiency and lack of side effects. **Objectives:** The aim of this study was to apply ozone to control the contamination of dental unit water lines (DUWL). **Methods:** In this experiment, the water lines in a dental unit with existing biofilm was treated with O₃ and subjected to microbiological assessment. The O₃ device used was the HealOzone unit (CurOzone USA), which delivers 2100 ppm O₃ in air at a rate of 615 ml/min. It was connected to the dental unit water bottle using a quick release coupling. The high-speed handpiece line was chosen for water sampling. A control water sample was collected before treatment. O₃ was applied for 3 minutes to the water bottle and the line was subsequently flushed for 2 minutes before water was immediately sampled into a sterile container, which contained L-Cysteine to neutralize any residual ozone. This was repeated daily morning for 5 days (Mon-Fri.). After the weekend, on day 8, a final sample without O₃ treatment was collected. All the samples were cultured on nutrient agar plates and incubated at 35°C for 3 days after which bacterial count was carried out. **Results:** The bacterial count of samples collected showed a bacterial reduction from 5.2*10³ CFU/ml before treatment to 300 CFU/ml after the first O₃ application and then to 0 CFU/ml after the second application onwards. **Conclusions:** The results suggest that O₃ delivered in this way can play an important role in controlling the problem of contamination of DUWL. Investigations are currently being conducted to determine the minimum O₃ required to solve this problem.

HEPATITIS C

2037 VIRUS ALERT: A CHAIRSIDE SYSTEM FOR EVALUATION OF THE RISK OF HCV INFECTION

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Objective: Cross-infection in dentistry is a serious concern, because of the risk of contamination of materials, instruments and dental units. Among the various infective agents, hepatitis C virus infection is a very subtle and dangerous one. A chairside, simple and easy to perform test for the visual detection of the anti-HCV antibodies in blood has recently been developed (Virus Alert: Castellini, CastelMaggiore, Italy). The purpose of the present study was to clinically evaluate the new testing device. **Methods:** 30 HCV positive (A) and 30 HCV negative (B) patients were selected for the study. HCV infection had been previously determined by laboratory test (ELISA). Other 40 dental patients (C) were randomly (HCV = ?) selected. All 100 patients were subjected to the Virus Alert test (following the manufacturers' instructions) prior to dental treatment and for the Group C (HCV = ?) an ELISA test was also performed. Data were collected and statistically analyzed. **Results:** A) 30 HCV positive (ELISA): Virus Alert confirmed 30 positive; B) 30 HCV positive (ELISA): Virus Alert confirmed 30 negative; C) 40 Random patients (HCV = ?): ELISA test showed 2 Positive (confirmed by Virus Alert = 2) and 38 negative (confirmed by Virus alert = 38). HCV infection was detected in 5% of population. **Conclusions:** Results were statistically significant. Virus Alert test showed a very high sensibility and reliability, allowing an easy and predictable, chairside evaluation of the risk of HCV cross-infection in dentistry.

WHITENING

2324 COMPARISON OF TWO DIRECT-TO-CONSUMER BLEACHING SYSTEMS HAVING DIFFERENT PEROXIDE DELIVERY: CLINICAL TOLERABILITY

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Objective: While vital bleaching with a peroxide gel is generally recognized as both safe and effective, there is little comparative clinical evidence of the tolerability of combination whitening systems having multiple sources for peroxide delivery. This randomized 2-week clinical trial was conducted to compare the clinical response of a combination bleaching system relative to a marketed control. **Methods:** A total of 57 adults were randomized. One group received a combination peroxide bleaching system (dentifrice/bleaching gel/rinse), while the other received 6.0% hydrogen peroxide whitening strips. Both products were used according to manufacturers instructions. Tooth sensitivity and oral irritation were assessed by subject report and oral examination. Bleaching Tolerability Severity-Days (BTSD) were calculated using onset, severity and duration data to compare treatments. **Results:** A total of 29 subjects (51% of the sample) reported either oral irritation or tooth sensitivity some time during the treatment period, while 10 subjects (18%) had treatment-related oral irritation observed by the examiner at one of the 2 post-treatment visits. BTSD means (SD) were 0.22 (0.39) and 0.43 (0.45) for the strip and combination groups respectively. Between-group comparisons using the non-parametric Wilcoxon rank-sum test showed the strip system to be significantly ($p=0.0458$) better tolerated than the combination system. **Conclusion:** The 6.0% whitening strip group exhibited a 34% reduction in tooth sensitivity and oral irritation, and statistically significant lower severity-days compared to the combination dentifrice/gel/rinse system.

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WHITENING

2156 INHIBITION OF STAIN FORMATION BY BAKING SODA/PYROPHOSPHATE CHEWING GUM AND DENTIFRICE

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Objectives: To evaluate the effects of a chewing gum and a dentifrice, both containing baking soda and pyrophosphate, on extrinsic tooth stain formation during an 8-week period. **Methods:** 115 adults participated in this clinical study, which used a double-blind, parallel-group design and consisted of a 4-week pre-trial phase and an 8-week trial phase with a prophylaxis preceding each phase. Extrinsic stain was measured on labial/lingual surfaces of incisors by the Modified Lobene Stain Index (MLSI). Stain-susceptible subjects brushed with a low-abrasivity dentifrice during the pre-trial phase to promote stain formation, and these stain scores were used for allocation to the following treatment regimens in the trial phase: A) 2x/day with control dentifrice (Unilever Aim®) B) 2x/day with baking soda/pyrophosphate dentifrice (Arm & Hammer Advance White®) C) 1x/day with control dentifrice + 2x/day baking soda/pyrophosphate chewing gum D) 1x/day with control dentifrice + 2x/day breathmints MLSI stain data from the 4-week interim and 8-week final exams were analyzed by ANCOVA using the pre-trial scores as covariates. **Results:** After 4 weeks of test product use, MLSI stain scores (Mean ± SE) were A) 0.70 ± 0.06 , B) 0.66 ± 0.06 , C) 0.60 ± 0.06 , D) 0.87 ± 0.07 , and after 8 weeks the scores were A) 0.84 ± 0.07 , B) 0.68 ± 0.07 , C) 0.68 ± 0.07 , D) 0.91 ± 0.07 . The pyrophosphate dentifrice group had less stain than the control dentifrice group at both exams, but the difference was significant ($p < 0.05$) only at 8 weeks. The pyrophosphate chewing gum group had significantly ($p < 0.01$) less stain than the control breathmint group at both exams. **Conclusions:** A baking soda chewing gum and dentifrice containing 1.0% and 3.3% tetrasodium pyrophosphate, respectively, each significantly reduced extrinsic stain formation during an 8-week period of use. [Supported by a grant from Church & Dwight Company]

WHITENING

2164 DENTAL STAIN: AN EXAMINATION OF CONSUMER PERCEPTION VS. PROFESSIONAL ASSESSMENT AND SUBSEQUENT ANALYSIS OF ASSOCIATED SELF REPORTED BEHAVIORAL VARIABLES

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Consumer perception of dental stain motivates the purchase of products that are marketed to whiten or remove stains. **Objectives:** In order to more fully understand the accuracy of consumer perception vs. a dental professional assessment, a retrospective analysis of a random sample of 2000 volunteers enrolled into a Contract Research Organization's database from October 2000 to July 2001 was undertaken. **Methods:** At screening, subjects were asked to rate their stain and to report on their routine habits and practices related to commonly perceived stain inducing or stain removing activities. Following subject rating, dental stain was assessed by experienced dental professionals familiar with stain indices used in clinical trials. Subjects and dental professionals used the categories of none, light, moderate, and heavy in their rating of stain. **Results:** The results of a Pearson's Correlation Coefficient analysis performed on the data indicated no correlation between perceived stain and the dental professional assessment of stain. Of those subjects who scored themselves as having stain, 35% thought their stain was light (72% had light stain according to the dental professional), 54% thought their stain was moderate (23% had moderate stain according to the dental professional), and 11% thought their stain was heavy (4% had heavy stain according to the dental professional). **Conclusion:** It was found that consumer perception of degree of stain is greater than the assessment of a dental professional.

NUTRITION

2791 CALCIUM INTAKE AND THE RISK OF PERIODONTITIS AMONG MEN

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Animal experiments and human studies suggest that low intake of calcium is associated with alveolar bone resorption and increased periodontitis risk, but the evidence is inconclusive. **Objective:** To examine prospectively the relation between calcium intake and the risk of periodontitis among men in the Health Professionals Follow-Up Study. **Methods:** The study cohort comprised 39,461 male US health professionals, aged 40-75 years, who reported no periodontitis in 1986. Each participant completed a 131-item food frequency questionnaire in 1986, 1990, and 1994, from which calcium intakes were calculated. Periodontal disease status was self-reported, and validated against radiographs. During 12 years of follow-up, 1,980 new cases of periodontitis were reported. We performed pooled logistic regression analysis to estimate relative risks (RRs) and 95% confidence intervals (CIs), adjusting for age, smoking, alcohol consumption, diabetes, body mass index, physical activity, vitamin D intake and total energy intake. **Results:** Men whose total daily intake of calcium from all sources (foods and supplements) was at least the recommended daily allowance (> 1000 mg) had 13% lower risk for periodontitis (RR = 0.87; 95% CI 0.78-0.97) as compared with men consuming less than 1000 mg/d. The results were similar when we examined calcium intake from foods alone (RR = 0.87; 95% CI 0.70-1.08). There was no linear trend across deciles of calcium intake using the medians within each decile as a continuous variable. **Conclusion:** The results suggest an inverse association between total calcium intake greater than 1000 mg/d and periodontitis risk in this population. Supported by NIH Grant CA55075.

2420 DENTAL CARIES AND EAR INFECTIONS

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A report from NIDCR indicates that there appears to be a relationship between dental caries and inner ear infections for which the exact biological mechanism is not fully understood. The proposed relationship stems from studies of xylitol chewing gum that have been shown to reduce dental caries and ear infections in children by inhibiting the growth of bacteria. **Objective:** To determine the extent of ear infections among children with (DC) and without (NDC) dental caries. **Methods:** The sample (range 2–5 years; mean: 3.33 ± 1.00 ; African-American: 80%) was recruited from the Pediatric Dental Center at University Hospitals and consisted of a total of 97 children (DC: 58; NDC: 39) with no major medical problems or craniofacial anomalies. Ear infection history (within the past year and lifetime), demographic, dental, health and diet history of child was determined using a questionnaire administered to the parent/guardian of the child. Dental charts were used to abstract DMFT (decayed, missing and filled teeth) scores for children with DC (DMFT ≥ 1) and NDC (DMFT = 0). **Results:** Chi-square analyses indicated no differences in ear infection history between the DC and NDC (past year: 41% vs. 36%; lifetime: 33% vs. 29%) groups. The mean number of ear infections within the past year although not significant was greater among the DC group (2.2 ± 1.9 vs. 1.5 ± 0.9). Linear regression with 9 independent variables in the model revealed that the frequency of child's dental visits, frequency of child's brushing, and sleeping with the bottle as an infant were the best predictors for DMFT scores. **Conclusion:** Although there seems to be no relationship between dental caries and ear infections in our sample, we suggest future studies be conducted with a larger sample size and a different study design that reduces the potential for recall bias.

069 EFFECT OF DIGITAL CONTRAST OPTIMIZATION ON THE DETECTION OF CARIES

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Objectives: Digital radiography offers the possibility to adjust contrast and brightness after the image is taken. There is, however, the risk that the image adjustment is subjective aiming at a "nice looking" image, instead of using objective and standardised criteria. In this study two standardised contrast optimisation procedures are investigated, to evaluate the effect of contrast optimisation techniques on the detection of caries. **Methods:** A panel of three experienced radiologists selected 100 correctly exposed bitewings. The radiographs were scanned on a flatbed scanner and the average cumulative grey-level histogram (ACGH) was calculated for these radiographs. Also, 50 over- and 50 underexposed films were selected and scanned. An expert panel viewed the original radiographs to establish ground truth about the presence and depth of caries lesions (because the radiographs had been taken from clinical patients, no histology could be done). The grey level distribution of each of the over- or underexposed images was optimised using the ACGH of the correctly exposed images as a reference (method 1) and using linear contrast stretching, excluding grey levels representing metal restorations (extreme radiopaque) and background (extreme radiolucent) (method 2). Eight observers assessed the images in random order; results were scored as observed lesion depth and observer confidence. Statistical differences were analysed using General Linear Models (SPSS 9.0) and considered significant when $p < 0.05$. **Results:** Linear contrast stretching performed better than the cumulative histogram optimisation ($p = 0.04$). Both were better than the original ($p = 0.02$). The benefit of contrast optimisation was larger for underexposed radiographs than for overexposed radiographs. **Conclusions:** Contrast optimisation in general improves the diagnostic image quality in caries detection. Simple linear contrast stretching performed better than the cumulative histogram optimisation.

0116 EFFECT OF AN INFANT ORAL HEALTH EDUCATIONAL PROGRAM FOR CARIES PREVENTION

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Early Childhood Caries (ECC) is a prevalent health problem in South Texas. Knowledge and prevention of ECC can be increased with mothers at WIC (Kanellis, 1997). Since 1997, mothers and children 0-12 months of age have participated at the Infant Oral Health Educational Program (IOHEP). **Objectives:** One of the objectives of this study was to evaluate the effect of the IOHEP at WIC on caries prevention. One hundred twenty children aged 1-5 years participated in the study. **Methods:** Children were examined by a single examiner previously standardized using the WHO diagnostic criteria for caries and evaluation for white caries lesions limited to enamel. **Results:** The population was predominantly Hispanic 96.7% (116/120) living in a non-fluoridated area. The prevalence of caries in the study was 23.3% (28/120). Forty-one (34.2%) of the parents had participated (PP) in the IOHEP 1-3 years previously and 79 (65.8%) of the parents had not participated (PNP). The participation of the parents in the IOHEP was highly associated with fewer enamel caries lesions and lower caries prevalence. The PP group had a mean dfmt 0.37, defs 1.22, and mean number of enamel lesions of 1.93. The PNP group had a dfmt 1.23 ($p = 0.043$), defs 2.97 ($p = 0.216$), and enamel lesions 4.05 ($p = 0.005$). Children whose parents had brushed their child's teeth with fluoride toothpaste had lower prevalence of caries than those who did not ($p = 0.007$). **Conclusions:** This study supports the hypothesis that infant oral educational programs directed to the parents can have a positive impact on the prevention of ECC.

2328 CLINICAL EVALUATION OF A SMOKING DETERRENT BREATHSPRAY COMPARED TO A PLACEBO SPRAY

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Objective: The purpose of this 4 week study was to determine the effectiveness of a test breathspray on deterring smoking and its effects on oral tissues and malodor. **Methods:** 21 healthy subjects who had smoked ≥ 20 cigarettes for ≥ 5 years and were motivated to quit smoking were enrolled into the study. At baseline, subjects were evaluated for the clinical parameters (oral soft tissue, modified gingival index (MGI), plaque index (PI), and odor assessment) and were randomly assigned to either the test spray or a placebo. Clinical parameters were repeated at the 4 week visit. **Results:** analyzed by ANOVA, showed that the MGI scores were reduced from baseline in the test group by 18% (total) scores and 17% (interproximal) while scores increased from baseline by 7% and 6%, respectively for the placebo spray. This difference was significant at the 4 week visit ($p < 0.05$). Plaque scores (total and interproximal) were reduced from baseline by approximately 32% for both groups and were not significantly different from one another. The test spray significantly improved malodor over twice the control (39% vs 18% ($p < 0.05$)). 86% of the test group reduced their smoking compared to only 25% for the placebo group. **Conclusions:** Results demonstrate that the test spray is safe to oral tissues, provides some plaque, gingivitis and odor reducing properties and causes an unpleasant taste in the mouth only when smoking. Supported, in part, by a grant from Den-Mat Corp., Inc.

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Le développement professionnel est l'un de nos principaux avantages reliés à l'adhésion comme membre. Ce journal et votre site web (www.cdha.ca) vous apportent une information scientifique et utile constamment à jour. Consultez la section *Réservé aux membres* du site web et parcourez la portion publique du site de façon à pouvoir y référer des clients, ou le site des enfants, qui loge à l'adresse www.citesourire.ca.

L'ACHD offre une conférence professionnelle annuelle ; Regina en juin 2003, St. John's en juin 2004 et Edmonton en juin 2005. La conférence vise à promouvoir la croissance personnelle et professionnelle de nos membres par l'éducation et à célébrer et reconnaître le leadership dans la profession.

La Semaine nationale de l'hygiène dentaire a créé une avalanche de couverture médiatique de la profession, à partir des petits journaux locaux et d'entrevues à la radio urbaine jusqu'à l'intérêt des journaux vis-à-vis l'étude *The Political*

Economy of Dental Hygiene in Canada publiée récemment par le Dr Pran Manga. La réaction des membres a été positive concernant les ressources en ligne pour faire la promotion de la profession et le concours de coloriage pour les enfants. Les trousse de promotion de la santé Oral B se sont envolées comme de petits pains chauds et nous distribuons présentement plus de 45 000 \$ de brosses à dents Oral B à nos membres qui font de l'extension dans leurs collectivités. Un remerciement tout particulier à Oral B pour continuer à soutenir la profession de cette façon et également pour offrir un montant de 5 000 \$ pour le Prix de promotion de la santé Oral B. Avez-vous déjà soumis votre participation ?

La couverture d'assurance responsabilité de l'ACHD est sur une base de réclamations déposées (pour être couverte, vous devez être inscrite à la date où une réclamation est faite). L'ACHD s'est aussi assurée d'une couverture pour toutes les membres précédentes avec statut de non pratiquante qui se retirent volontairement de la pratique, déménagent dans un autre pays, ou ne peuvent pas pratiquer à cause d'une maladie, y compris la grossesse ou des blessures. D'autres produits d'assurance incluent l'assurance vie, mort et démembrement accidentels, l'assurance pour soins de santé prolongés, l'assurance dentaire, l'assurance incapacité à long terme et maladie critique, l'assurance responsabilité générale commerciale pour les membres pratiquant comme travailleurs autonomes, l'assurance de résidence de groupe et l'assurance auto.

« L'ACHD est la voix de
la profession de l'hygiène
dentaire au niveau national
et le nombre fait la force. »

Et c'est presque à nouveau la saison des.... RÉÉR ! En septembre, l'ACHD a lancé un nouveau régime de haute qualité avec la société Canada Life, et nous vous encourageons à investir dans votre avenir par le biais de ce nouveau régime. Pour en savoir davantage, appelez le 1-800-387-2679.

L'ACHD est la voix de la profession de l'hygiène dentaire au niveau national et le nombre fait la force. Nous intercédons en votre nom concernant l'éducation, l'auto-réglementation, les soins du client, le remboursement par des tiers payeurs, et les conditions d'emploi. Dans cette famille, votre voix compte. Nous faisons bon accueil à tous les appels et à tous les courriels. Vos commentaires sur les documents de position et autres documents ressources sont très importants pour nous. S'il vous plaît, communiquez-nous vos opinions. Plus tard cette année, nous allons vous consulter sur un exposé de principe concernant l'Accès aux soins. Si vous voulez participer à cette consultation autrement qu'en ligne, contactez Judy Lux, spécialiste de l'ACHD dans le domaine des politiques et des communications, pour vous assurer d'avoir l'occasion de faire vos commentaires au niveau de l'ébauche.

L'adhésion à l'ACHD ne vous coûte que 40 cents par jour. Et, oh oui... n'oubliez pas que, à la différence de la plupart de vos autres relations de famille, celle-ci est déductible aux fins de l'impôt !

Nos meilleurs vœux de joyeuses fêtes. 

PROBING THE NET

BY KAREN WOLF, DipDH

For many of us, the warm sun and long days of summer are a distant memory. Christmas is just around the corner and the warmth now comes from a fireplace and the fellowship of friends and family. Merry Christmas and Happy Holidays to all!

CDHA's Probing the Net

(www.cdha.ca/members/content/resources&tools/probing_the_net.asp)

The first site I'd like to introduce you to is a new section of our own web site for CDHA members. The *Probing the Net* area of the web site (under *Resources & Tools*) is designed to meet the wide variety of member needs by linking you to a clearing house of credible web sites. These are categorized under 18 headings to make searching easier. Educators, researchers, practitioners — enjoy! The first three sites below come from this list of valuable and reliable web sites.

GradSchools (www.gradschools.com/listings/all/dentalHygiene.html)

This site offers both a comprehensive directory of graduate school programs, categorized by curriculum and subdivided by geography, as well as useful information to assist the would-be-applicant in areas of admissions, testing, applications, and more. There are links to help you with your application essays; a Graduate School Handbook is full of preparation information for the graduate school of your choice; and extensive on-line resources await you in the *Informational Links* section of the *Information Center*. These will help you "gain a better knowledge of the graduate school and higher education environment."

University of British Columbia, Distance Education and Technology campus (<http://det.cstudies.ubc.ca>)

You will discover that UBC is becoming more accessible on-line with their Distance Education and Technology campus. You can access information through sections such as *Learner's Resources*, *Course Offerings*, *Post-Graduate Programs*, *Project Development*, *Partnerships*, and *Research*. Be sure to check out the two on-line dental hygiene courses (Oral Biology and Immunology; Oral Pathology) on the *Course Offerings* page.

Athabasca University (www.athabascau.ca)

Another distance learning facility is our very own internationally renowned Athabasca University. AU can once again claim the leadership title in the area of distance learning as it was "one of only three recipients of an Award of Excellence for Institutional Achievement presented by the Commonwealth of Learning (COL)." This award "recognize[s] significant achievements in the innovative and effective application of appropriate learning technologies to reach students who might otherwise not have participated in the learning or training experience." Check out AU's web site to find out more about this institution.

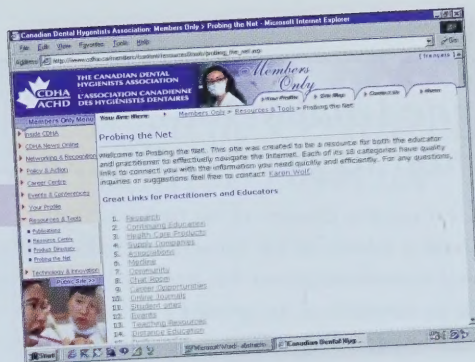
Dental Hygiene Educators Canada (www.members.shaw.ca/eunicee/dhec/index.html)

The next site is a milestone in the evolution of dental hygiene in Canada. Our very own Dental Hygiene Educators Canada has launched its own web site. Congratulations!

SquirrelNet (www.squirrelnet.com/default.asp)

Last, for all you "surfers" who struggle trying to decide which browser is more efficient for on-line searching, check out SquirrelNet for a current ranking of web browsers. This site is worth checking every so often so you can efficiently manage the World Wide Web.

Until next time. 



Dental Hygienists wanted!



Exceptional employment opportunities are available throughout British Columbia for dental hygienists.

Do you enjoy sailing in the morning and skiing in the evening? *We've got it!*

Big city lights? *We've got it!*

Attractive starting salaries? *We've got it!*

If lifestyle and employment security are important to you, think about working in BC. Check out some of the positions available by viewing the Association of Dental Surgeons of BC's website at www.adsbc.bc.ca or phoning the Employment Opportunities Line of the BC Dental Hygienists' Association at 1-604-415-7671.

For registration enquiries, contact the College of Dental Hygienists of British Columbia at:

telephone: 1-250-383-4101
fax: 1-250-383-4144
e-mail: cdhbc@cdhbc.com



Association of
Dental Surgeons of
British Columbia

#400-1765 West 8th Ave.,
Vancouver, BC V6J 5C6
Tel: 1-604-736-7202

CDHA recognizes Dianne Landry's contribution to the dental hygiene profession

CDHA wishes farewell to Dianne Landry, Executive Director of the National Dental Hygiene Certification Board (NDHCB) for seven years. We offer her heartfelt thanks for her commitment to the profession of dental hygiene. Her coordination and development of a national examination to set the standard of excellence to be met by dental hygienists in Canada, as well as her 1994 coordination of the grandparenting program for practising dental hygienists, were monumental tasks completed in record time. Dianne has also been instrumental in moving us toward a national portability of dental hygiene credentials.

A recognized leader of dental hygiene in Canada, Dianne should have a well-earned sense of pride in the legacy she helped to create for the profession. The Canadian public also benefits from the standards of excellence the NDHCB sets for comprehensive, safe, and competent dental hygiene treatment.

CDHA speaks for all its members in wishing Dianne a happy retirement and the best of health and happiness on the East Coast.

"THE CDHA FAMILY" (continued from page 207)

We set up a skills and knowledge database to lessen the professional isolation that many members feel. On the web site, you can now "Find a Member" who shares your interests and network with them. Over the next few years, we hope to build interest networks where information can be shared on-line.

Information on salaries and benefits is always of interest. How does my salary compare with my colleagues'? Are my working conditions and benefits fair? If I move to another province, will my income go up or down? We collect this information nationally in a sound manner and as a member, you can find the answers. This information also helps us substantiate or refute claims about your profession. If you haven't completed your confidential survey on-line or mailed it to us, please do it soon—the deadline is December 15.

A new job database is now being launched to allow employers to submit their job ads themselves on-line. These ads are available to members only.

CDHA members have access to pillars of the profession: *Code of Ethics*, *Dental Hygiene: Definition, Scope, and Practice Standards*, and *Client's Bill of Rights*. We are identifying available dental hygiene print, video, and educational resources. Our resource centre is now a formal library. You can reach Nancy Roberts, our information consultant, by calling CDHA or e-mailing her at library@cdha.ca. And check our on-line *Product Directory* (*Members Only* section) for information on products of interest to you.

Professional development is one of the most obvious membership benefits. This journal and our web site (www.cdha.ca) provide current scientific and useful information. Check out the web site's *Members Only* section and browse the public portion of the site so you can refer clients to it or the children's site at www.smilecity.ca.

CDHA offers an annual professional conference—Regina in June 2003, St. John's in June 2004, and Edmonton in 2005. The conference aims to promote personal and professional growth through education, and to celebrate and recognize leadership in the profession.

National Dental Hygienists Week has spawned a flurry of media coverage of the profession, from small town newspapers and urban radio interviews to newspaper interest in the recently released *The Political Economy of Dental Hygiene in*

Canada by Dr. Pran Manga. Feedback from members has been positive about the on-line resources for promoting the profession and the children's colouring contest. The Oral-B health promotion kits flew out the door and we are currently distributing more than \$45,000 of toothbrushes from Oral-B to our members reaching out in their communities. A special thank you to Oral-B for continuing to support the profession in this way and also for providing \$5,000 in prize money for the Oral-B Health Promotion Awards. Have you submitted your entry yet?

Meaningful insurance coverage has been a long-time benefit of CDHA membership; some recent program changes make this even more valuable. CDHA's professional liability insurance coverage is on a claims-made basis (you must have coverage on the date a claim is made in order to be covered). CDHA also secured coverage for all previous members with non-practising status who voluntarily retire from practice, move to another country, or cannot practise due to sickness including pregnancy or injury. Other insurance products include life, accidental death and dismemberment, extended health care, dental, long-term disability and critical illness insurance, commercial general liability insurance for self-employed members, group home and auto insurance.

And it is almost that season again ... for RRSPs! In September, CDHA launched a new high-quality plan with Canada Life and we encourage you to invest in your future in this new plan. Call 1-800-387-2679 for information.

CDHA is the voice of the dental hygiene profession nationally and there is strength in numbers. We advocate on your behalf with regard to education, self-regulation, client care, reimbursement by third party payers, and employment conditions. Your voice in this family matters. We welcome all calls and e-mails. Your input on position papers and other resource documents is very important to us. Please give us your feedback. Later this year, we will be consulting you on an Access to Care position paper. If you want to participate in this consultation but not on-line, contact Judy Lux, CDHA's Policy and Communications Specialist, to ensure you have the opportunity to comment on the draft.

Your CDHA membership costs less than 40 cents per day. And oh yes ... don't forget your membership fees, unlike most of your other family relationships, are tax deductible!

Best wishes for a happy holiday season. 

National Dental Hygiene Certification Board (NDHCB) Appoints New Executive Director



Ms. Laura Myers
Executive Director - NDHCB

October 18, 2002 (OTTAWA) — The National Dental Hygiene Certification Board is pleased to announce the appointment of Ms. Laura Myers to the position of Executive Director for its National Office.

Ms. Myers is replacing Ms. Dianne Landry who is retiring from the position as of October 31, 2002.

Ms. Myers has extensive experience in clinical/restorative, community health, and educational dental hygiene practice. She has been a classroom and clinical instructor at Algonquin College and La Cité Collégiale. She has served as a council member of the College of Dental Hygienists of Ontario, as a member of the Commission on Dental Accreditation of Canada site visit teams, and as a member of the National Dental Hygiene Certification Board's Examination Committee.

Ms. Myers is a graduate of John Abbott College and is currently completing a BA at Carleton University. "The NDHCB of Governors welcomes Ms. Myers to the position of Executive Director and we look forward to working with you," commented Ms. Diane Eade, President of NDHCB.

The National Dental Hygiene Certification Board, through its national certification program, is advancing the portability of credentials and safety to practice issues for dental hygienists in Canada.

For more information, please contact: Diane Eade, President, NDHCB

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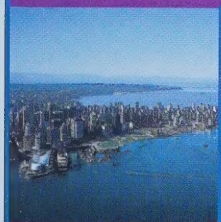


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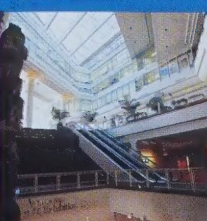
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www.pacificdentalonline.com

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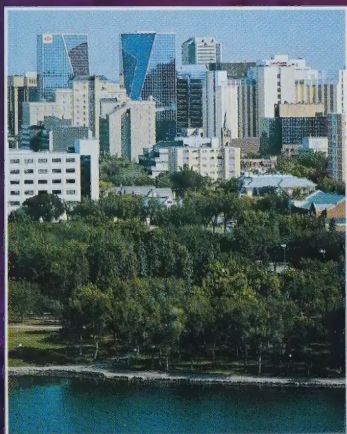
Where insurance is a science
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[†] Group auto insurance rates are not applicable in Newfoundland and P.E.I. Due to provincial legislation, our auto insurance program is not offered in British Columbia, Manitoba and Saskatchewan. *No purchase necessary. Contest open only to residents of Canada, excluding Manitoba. Approximate value of the BMW X5 vehicle (model 3.0) is \$57,000 (may not be identical to the one shown). Contest runs from December 13, 2001 to December 31, 2002. To obtain the rules and regulations of the Win a BMW X5 Contest, visit www.melochemonnex.com.



Expanding Horizons

14th Annual Professional Conference
Regina, Saskatchewan
June 20-22, 2003



Regina, the capital city of Saskatchewan, is the heartbeat of the province. Founded in 1882, Regina was once home to the Plains Indians. Over the years, the city has grown and prospered, evolving from a quiet farming town in the settlement years to a modern and cosmopolitan centre of business, industry, and government. Come to Regina and discover this oasis on the Prairies. For more information about the city and all that it has to offer, visit www.tourismregina.com.

The Regina Inn Hotel and Conference Centre, a city landmark since 1967, is Regina's premier hotel. Located in the heart of the business and financial district, the Regina Inn is only minutes away from Wascana Park and the Cornwall Centre, the city's largest shopping centre. With the recent multi-million dollar renovation, the Regina Inn offers modern facilities with professional, friendly service. For a virtual tour, visit www.reginainn.com. To make room reservations, call toll free 1-800-667-8162 and ask for the CDHA Conference rate. Rooms will be available at the conference rate until May 19, 2003.



Ms. McCuster, Canadian Olympic Gold medallist in women's curling, will provide us with an insider's view of the Olympic Games. An enthusiastic and motivational speaker, Ms. McCuster will share amusing anecdotes and pictures (as well as her Gold Medal!) from her time in Nagano, Japan.

**KEYNOTE SPEAKER,
Sunday, June 22,
is JOAN MCCUSTER**

Joan was raised on the family farm near Saltcoats, Saskatchewan, and attended high school in Yorkton, Saskatchewan. She was the SRC class president and won the 1983 Saskatchewan High School Curling Championship. Joan continued her education at the University of Saskatchewan, obtaining her Bachelor of Education degree in 1987. She went on to teach in Raymore and Regina. Joan resigned her teaching position in 1998 to dedicate more time to her family, curling, and her new career as a professional speaker. Joan's curling career has earned her numerous titles including Olympic Gold Medallist (1998, Nagano, Japan) and three-time Canadian and World Women's Curling Champion (1993, 1994, 1997). When Joan is not curling, speaking, or providing curling commentary on CBC, she enjoys cycling, walking, fastball, swimming, golf, and cross-stitching.

**All conference
information will be posted
to the CDHA website as it
becomes available.**

GUIDELINES FOR AUTHORS

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MISSION STATEMENT

The mission of *Probe* (scientific issues) is to provide a forum for the dissemination of dental hygiene research to enrich the body of knowledge within the profession. Further, the intent is to increase interest in, and awareness of, research within the dental hygiene community.

POLICY STATEMENT

Probe (scientific issues) invites manuscripts relevant to dental hygiene research including theory development, education, and practice. Preference is given to manuscripts that address current issues, make a significant contribution to the body of knowledge of dental hygiene, and advance the scientific basis of practice.

A manuscript submitted to *Probe* (scientific issues) for consideration should not have been submitted or published elsewhere in any written or electronic form, nor should it be currently under review by another body. This does not include abstracts prepared and presented in conjunction with a scientific meeting and subsequently published in the proceedings.

Manuscripts reporting empirical studies should provide comprehensive descriptions of the research design and methods. The results and conclusions should be clear and supported by valid and reliable data. Manuscripts developing theory or discussing epidemiological or methodological issues should be appropriately illustrated and documented.

INITIAL MANUSCRIPT SUBMISSION

Each initial submission must include 4 hard copies of the manuscript, double-spaced, single-sided, with title page, key words, abstract, text, acknowledgments, references, tables, figures, and illustrations (with legends), each beginning on a new page.

Submissions must include electronic files in WordPerfect or Microsoft Word format. PC files and PC diskettes or zip disks are preferred, but the CDHA will also accept Mac versions. Please indicate the software version and platform on all disks.

Under certain circumstances, upon confirmation with the CDHA, PageMaker or QuarkXPress files can be accepted.

Electronic files should be as free of formatting as possible (i.e., no tabs, indents, and codes). As well, please do not use the automatic numbering of footnotes or endnotes.

The exceptions to this are

- italicized items, such as the species of an organism
- accepted Latin terminology and abbreviations
- indented reference sections

Illustrations, charts, diagrams, and photographs should be inserted at appropriate locations within the hard copy of the manuscripts supplied. Clean copies of all illustrations, charts, and diagrams should be provided on separate 8 1/2" x 11" sheets. Illustrations, charts, and diagrams created in electronic formats must be provided in the following manner:

- a copy of the original file in the original program on a disk
- where possible, also saved as a *.TIF or *.EPS version (and named accordingly) on a disk
- as a hard copy printout

Photographs should be provided as unmounted glossy prints (5" x 7" or 8" x 10" preferred), slides, or electronic files (minimum 600 dpi), or preferably both. All illustrations, charts, diagrams, and photos should be in a separate envelope, reinforced with cardboard, within the mailing pouch. Each item must be clearly labelled on the back with the authors' abbreviated captions and numbers according to the citations within the text, and the corresponding manuscript page numbers. Information should be printed on a label affixed to the back of the image; do not write directly on the back of photographs or images.

Each manuscript must be accompanied by a cover letter stating that the research is original, not under consideration elsewhere, and was conducted according to ethical standards of the *Tri-Council Policy Statement for Ethical Conduct for Research Involving Humans* 1998. The letter must be signed by the first author and include this correspondent's mailing address, telephone, fax, and/or e-mail address.

The correspondent should also include a self-addressed, stamped postcard with the following typed on it: "The manuscript entitled _____ (title) _____ has been received by the editor on _____. Upon receipt of the manuscript, this card will be dated and returned to the author.

MANUSCRIPT CONTENT AND COMPONENTS

Authors should use a direct and straightforward writing style. Comprehension is increased with clear writing and a logical progression of ideas within each sentence, each paragraph, and ultimately throughout the manuscript. State the paper's purpose and thesis at the beginning, and follow with background, dates, discussion, and conclusions. Good writing is clear, concise, and free of acronyms and jargon.

Title page

The title must be concise but informative. It should be followed by each author's

name (first name, middle initial, and last name) with respective degrees and any institutional affiliation. All authors should have participated sufficiently in the work to be accountable for its contents. Any co-authors should initial manuscripts beside their name to indicate that they have reviewed and approve the contents.

Abstract

The abstract should be no longer than one typewritten page (approximately 250 words) and should not contain references or section headings. A typical format is outlined below.

Components for empirical studies, in order

- 1) background: description of the problem being addressed and why
- 2) methods: description of how the study was performed
- 3) results: the primary statistical report
- 4) conclusion: what the authors have derived from these results

Components for reviews, in order

- 1) objective: including the subject or procedure reviewed
- 2) method: description of the review methodology (e.g., metanalysis)
- 3) summary: synopsis of the conclusion and/or results

or

- 1) clinical condition: description of the clinical quandary
- 2) treatment choices and comparisons
- 3) results: expected clinical outcomes given the options reviewed

A maximum of 6 key words or short phrases should also be provided for indexing purposes. Terms from the Medical Subject Headings (MeSH) list of *Index Medicus* are preferred.

Text

Text should be in a 12-point font, serif (i.e., Times) or sans serif (i.e., Arial, Helvetica). Script typefaces should be avoided. All text and titles should be in upper and lower case, not in CAPS. Paragraphs should be separated by one-line return and should not be indented. The text must be divided into sections as shown below. Subheadings are acceptable.

1. Introduction

This section contains a concise background and rationale for the article. All work reported in this section must have been completed and published and cannot include data and/or findings from the paper being presented.

2. Materials and methods

Readers should be able to reproduce the study from the report in this section. List the methods and materials (stating manu-

facturer's name and location; city/state/province/country) used in the study. Research populations must be calculated and identified. Study design must be clear and appropriate controls seen to be in place. Human review and appropriate consent must be stated and in accordance with the *Tri-Council Policy Statement for Ethical Conduct for Research Involving Humans* 1998. Any animal studies must be in accordance with national law on the care and use of laboratory animals and should state the institution's review requirement.

3. Results

Results should be presented in a logical sequence as befits the methods used and must reference tables, figures, and illustrations. Details about randomization, eligibility, and/or loss of subjects should be included. All tabular data should report either standard deviation values or standard errors of the means, probability values, and the names of any statistical tests.

4. Discussion

In this section, the authors explain and interpret their work in light of the previously published work outlined in the Introduction. Authors may highlight the advances as well as discuss the limitations of their work. Implications for future work should be discussed. Subjectivity is acceptable in this section if it is directly linked to the content of the paper and has a scientifically credible background.

5. Conclusions

Conclusions must be drawn from the body of original work and not in light of work referred to within the discussion section. Statements made must be derived directly from the results and not be speculative.

6. Acknowledgments

Here recognition is given to individuals who provided assistance or support to the work. The author must retain written permission from any and all persons identified in this section for citing their names, as to do so may imply endorsement of the data and/or conclusions. All funding sources must be identified in this section.

7. References

References should be numbered consecutively in the order in which they are first mentioned in the text. Please do not use the automatic numbering of footnotes or endnotes. Using superscript arabic numerals, identify references in text at the end of the sentence in which they appear. If a sentence contains two references, a comma is inserted between them; if multiple sequential references, an en-dash is inserted between the first and last reference number (e.g., 1,2 or 3-6).

The reference style chosen is based on the *Index Medicus*.

Journal

Orban, B., Manella, V.B.: A macroscopic and microscopic study of instruments designed for root planing. *J Periodontol* 27: pp. 120-135, 1956

Volume with supplement

Orban, B., Manella, V.B.: A macroscopic and microscopic study of instruments designed for root planing. *J Periodontol* 27 (Suppl. 5): pp. 120-135, 1956

Conference proceedings – presentation or paper

Calder, B.L., Sawatzky, J.: A team approach: providing off-campus baccalaureate programs for nurses. In: Proceedings of the Ninth Annual Conference on Distance Teaching and Learning. Aug 4-6, 1993, Madison, WI. [place of publication]: [name of publisher], pp. 23-26, 1993

Conference proceedings – abstract

Austin, C., Hamilton, J.C., Austin, T.L.: Factors affecting the efficacy of air abrasion [abstract]. In: Abstracts of papers, 30th Annual Meeting of the AADR and 25th Annual Meeting of the CADR. Mar 7-10, 2001, Chicago, IL. *J Dent Res* 80 Special Issue (AADR Abstracts) (January): p. 37, Abstract nr 015, January 2001

Book

Cairns, J. Jr., Niederlehner, B.R., Orvosm, D.R., eds.: Predicting ecosystem risk. Princeton, NJ: Princeton Scientific Publications, pp. 560-562, 1992

Article in book

Weinstein, L., Swartz, M.N.: Pathological properties of invading organisms. In: Soderman, W.A. Jr., Soderman, W.A., eds. Pathological physiology: mechanisms of disease. Philadelphia: WB Saunders, pp. 457-472, 1974

Organization as author

Canadian Dental Hygienists Association: Policy framework for dental hygiene education in Canada. *Probe* 32: pp. 105-107, 1998

No author

What is your role in the profession? [editorial] *J Dent Topics* 43: pp. 16-17, 1999

Personal communication

Skelton, M.: Conversation with author. Oak Park, ILL: July 14, 1990

Newspaper article

Rensberger, B., Specter, B.: CFCs may be destroyed by natural process. *Globe and Mail*, Sect. B, p. 24, Aug. 7, 1989

Audiovisual

Wood, R.M., ed.: New horizons in esthetic dentistry [videocassette]. Visualeyes Productions, producer. Chicago: Chicago Dental Society, 2 videocassettes, 1989. Available from Great Plains National Instructional Television Library, Lincoln, NE

Computer program

National Library of Medicine: GRATEFUL MED [computer program]. Version 5.0. Bethesda, MD: NLM, 1990

Internet

National Library of Canada: Citing electronic sources: a bibliography [on-line]. Revised March 31, 1998. [Cited May 26, 1999.] Also available in French. <www.nlc-bnc.ca/services/eciting.htm>.

■ PUBLICATION PROCESS

The scientific issues of *Probe* are peer-reviewed journals. Each manuscript will be reviewed by the editor and two members of the advisory group as well as the statistical consultant. The author will then receive all comments (written directly on the copies) and a cover letter summarizing any resubmission requirements. Every attempt will be made to return the first round of comments within 6 weeks.

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